

Service Manual

ViewSonic VE702m

Model No. VS10535

17" Color TFT LCD Display

(VE702m_SM_939 Rev. 1a Jan. 2005)

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Revision History

Revision	SM Editing Date	Documents Number		Description of Changes	Editor
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1. Precautions and Safety Notices

1. Appropriate Operation

- (1) Turn off the product before cleaning.
- (2) Use only a dry soft cloth when cleaning the LCD panel surface.
- (3) Use a soft cloth soaked with mild detergent to clean the display housing.
- (4) Use only high quality and safety approved AC/DC power cord.
- (5) Disconnect the power plug from AC outlet if the product is not used for a long period of time.
- (6) If smoke, abnormal noise, or strange odor is present, immediately switch the LCD display off.
- (7) Do not touch the LCD panel surface with sharp or hard objects.
- (8) Do not place heavy objects on the LCD display, video cable, or power cord.
- (9) Do not use abrasive cleaners, waxes or solvents for your cleaning.
- (10) Do not operate the product under the following conditions:
 - Extremely hot, cold or humid environment.
 - Areas susceptible to excessive dust and dirt.
 - Near any appliance generating a strong magnetic field.
 - Place in direct sunlight.

2. Caution

No modification of any circuit should be attempted. Service work should only be performed after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

3. Safety Check

Care should be taken while servicing this LCD display. Because of the high voltage used in the inverter circuit, the voltage is exposed in such areas as the associated transformer circuits.

4. LCD Module Handling Precautions

4.1 Handling Precautions

- (1) Since front polarizer is easily damaged, pay attention not to scratch it.
- (2) Be sure to turn off power supply when inserting or disconnecting from input connector.
- (3) Wipe off water drop immediately. Long contact with water may cause discoloration or spots.
- (4) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.
- (5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.
- (6) Since CMOS LSI is used in this module, take care of static electricity and insure human earth when handling.
- (7) Do not open nor modify the Module Assembly.
- (8) Do not press the reflector sheet at the back of the module to any directions.
- (9) In case if a Module has to be put back into the packing container slot after once it was taken out from the container, do not press the center of the CCFL Reflector edge. Instead, press at the far ends of the CFL Reflector edge softly. Otherwise the TFT Module may be damaged.
- (10) At the insertion or removal of the Signal Interface Connector, be sure not to rotate nor tilt the Interface Connector of the TFT Module.

- (11) After installation of the TFT Module into an enclosure (LCD monitor housing, for example), do not twist nor bend the TFT Module even momentarily. At designing the enclosure, it should be taken into consideration that no bending/twisting forces are applied to the TFT Module from outside. Otherwise the TFT Module may be damaged.
- (12) Cold cathode fluorescent lamp in LCD contains a small amount of mercury. Please follow local ordinances or regulations for disposal.
- (13) Small amount of materials having no flammability grade is used in the LCD module. The LCD module should be supplied by power complied with requirements of Limited Power Source (IEC60950 or UL1950), or be applied exemption.
- (14) The LCD module is designed so that the CFL in it is supplied by Limited Current Circuit (IEC60950 or UL1950). Do not connect the CFL in Hazardous Voltage Circuit.

Correct methods :	Incorrect Methods :
Only touch the metal-frame of the panel or the front cover of the monitor. Do not touch the surface of the polarize .	Surface of the panel is pressed by fingers & this may cause “ MURA “
	
	
Take out the monitor with cushion	Take out the monitor by grasping the LCD panel. That may cause “ MURA “.
	

Correct Methods :	Incorrect Methods :
Place the monitor on a clean & soft foam pad .	Place the monitor on foreign objects . That could scratch the surface of panel
	

2. Specification

2-1 General Descriptions

Item		Specification	Unit
LCD panel	Active Area	337.9 (H) x 270.34 (V) (17.0" diagonal)	mm
	Driver Element	a-si TFT Active Matrix	-
	Pixel Number	1280 x R.G.B. x 1024	pixel
	Pixel Pitch	0.264 (H) x 0.264 (V)	mm
	Pixel Arrangement	RGB Vertical Stripe	-
	Display Color	16.2M	color
	Transmissive Mode	Normally White	-
	Viewing Angle (H / V)	160 / 120	degree
	Brightness	350	cd/m ²
	Contrast Ratio	350	-
	LC Response Time (Tr+Tf)	14 (Tr: 4 + Tf: 10)	msec
Graphic	Separate Sync.	TTL Level	-
	Horizontal Sync.	Positive / Negative	-
	Vertical Sync.	Positive / Negative	-
	Input Connector	D-Sub mini 15 pins	-
Performance	Auto Adjust	Clock, Phase, H Position & V Position	-
	Screen Scaling	VGA/SVGA/XGA/SXGA Full Screen Display	-
	Power Management	VESA DPMS, ENERGY STAR® Compliance	-
	Color Adjustment	User, 6500K, 7500K & 9300K	-
	OSD Language	English, French, German, Spanish, Italian, Japanese, Traditional Chinese, Simplified Chinese, Russian, Korean,	-
Power source	Power Input	AC100~240 (Worldwide)	V
	Power Output	19V _{DC}	-
Power consumption	Operation Mode	51	W
	Power Saving Mode	3	W
Tilt angle	Upward / Downward	20 / 0	degree
Physical	Dimension, weight	386.8(W) x 402.45(H) x 213(D), 3.36	mm, kg
DCC	Plug & Play	DDC 2B Compliance	-
Function	Front key	6keys	
	Turbo (Brightness Switch)	Picture Mode: 370 Text Mode: 200 Economy Mode: 140	cd/m ²
	Speaker & Audio (Optional)	1W*2	-
			*

2-2 Electrical Specifications

Item		Description
Video Signal	Input System	RGB Separate
	Signal Level	Analog RGB (0.7V _{p-p})
	Input Impedance	75Ω
Synchronization Signal Input System	Signal Level	Separate Sync: TTL
Compliant Timing		See Appendix 1.
Input Connector		15 pins mini D-Sub
Video Frequency Bandwidth		135 MHz dot clock
Audio (Optional)		d=3.5mm stereo mini jack, 1W/ch
Synchronization Frequency	Horizontal Sync.	30 ~ 82 kHz
	Vertical Sync.	56 ~ 76 Hz
Power Supply	Input Voltage	AC 100~240V (Worldwide)
	Frequency	50 / 60Hz
	Power Consumption	51 W (max)
	Power Management	3W (max)
Backlight	Lamp Type	Cold Cathode Fluorescent Lamp
	Lamp Quantity	4pcs
	Lamp Life Time	40,000 Hrs (min)
Plug & Play		VESA DDC 2B Compliance
Power Management		VESA DPMS, ENERGY STAR® Compliance
Power Management Status	Power Consumption	Screen Recovery Time
Stand-by Suspend Active-off	3W or less	Within 3 sec

2-3 Optical Characteristics

Item	Condition
Temperature	Normal room temperature (25±2°C)
Humidity	50±10%
AC input voltage	100V±2V, 120±2V, 60Hz / 240±2V, 50Hz
Brightness	Maximum with OSD setting
Contrast	Middle with OSD setting
Resolution setting	1280 x 1024 @60HZ
Color temperature	With OSD setting
Measuring instrument	Topcon luminance colorimeter BM-5A or equivalent
Others	Before measuring, “Auto Config” & “Auto Balance” must be done in advance

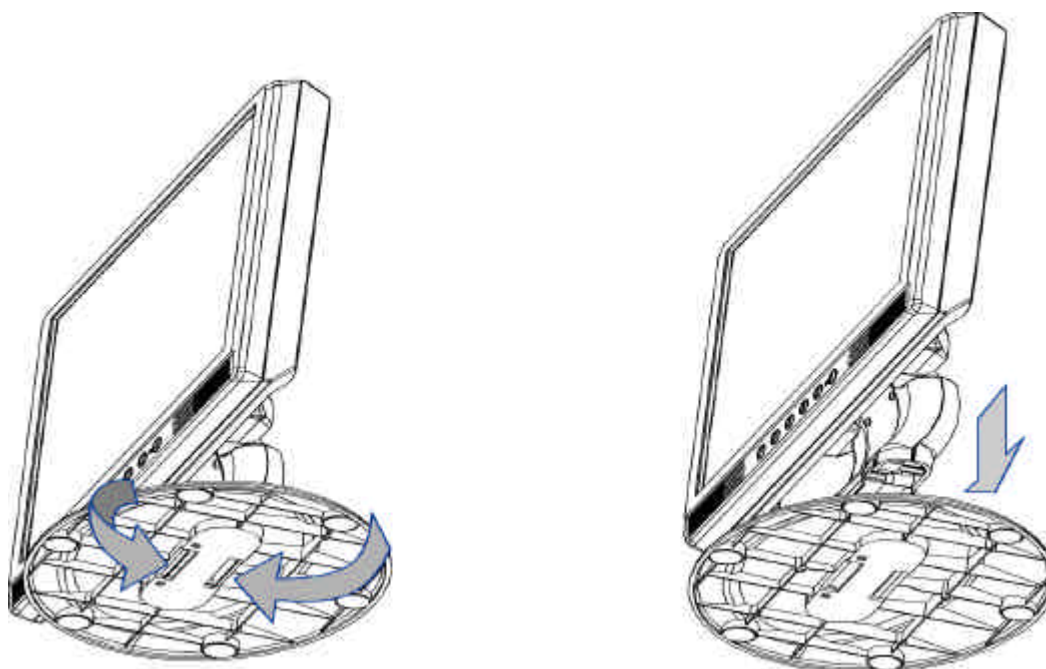
2-4 Accessories

- Power Cable: 1.8m
Rating: 10A, 250V
- Signal Cable: D-sub mini 15pin, 1.8m
- Audio Cable (Optional): 1.8m
Jacket: OD 3.0mm Insulation resistance: 10M Ω /Min. 300V_{DC}
- AC-DC Adapter:

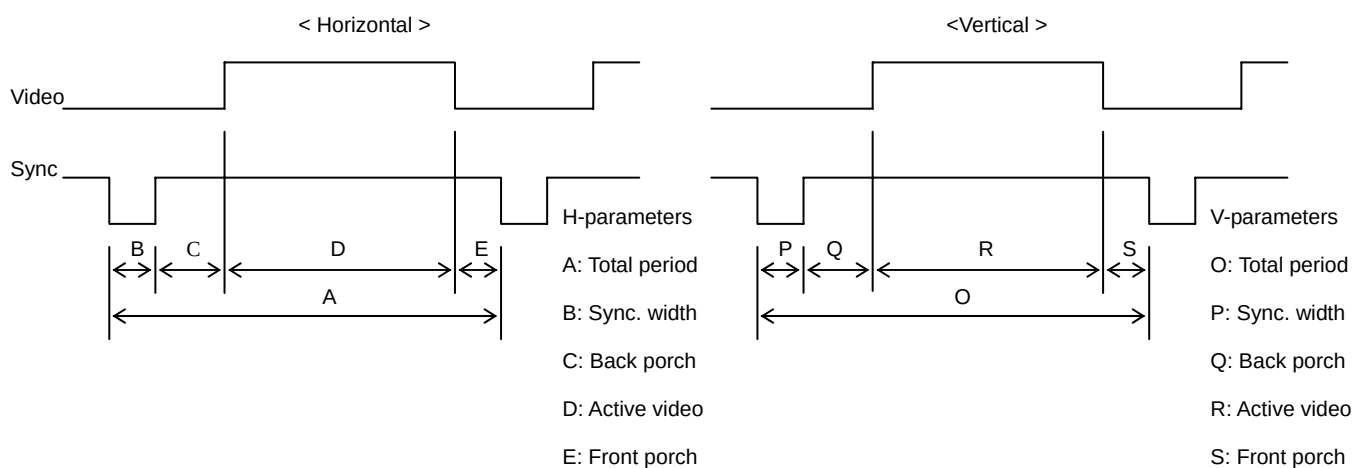
Item	Description
Supplier (Model No.)	ASIAN / DA-60F19-AA
Input Voltage	100 ~ 240V _{AC}
Input frequency	50Hz / 60Hz
Input Current	1600mA (max)
Output Voltage	19V _{DC} ±5%
Output Current	3160mA
Output Power	60 W (19V / 3.16A)
Efficiency	AC input 115V _{AC} 80% (min)
Inrush Current (Cold Start at 25°C, Full Load)	120A Max. / 120V _{AC} / 60Hz 240A Max./ 240V _{AC} / 50Hz

- Quick start guide.
- User Manual CD-ROM.

Stand-bottom to be set by user:



2-5 Compliant Timing



Item	Video Mode		fH (kHz)	fV (Hz)	Dot clock (MHz)	Sync polarity		Horizontal (dot)					Vertical (line)				
						H	V	A	B	C	D	E	O	P	Q	R	S
1	VESA	VGA 640x480	31.469	59.940	25.175	N	N	800	96	48	640	16	526	2	33	480	11
2			37.861	72.809	31.500	N	N	832	40	128	640	24	520	3	28	480	9
3			37.500	75.000	31.500	N	N	840	64	120	640	16	500	3	16	480	1
4		SVGA 800x600	35.156	56.250	36.000	P	P	1024	72	128	800	24	625	2	22	600	1
5			37.879	60.317	40.000	P	P	1056	128	88	800	40	628	4	23	600	1
6			48.077	72.188	50.000	P	P	1040	120	64	800	56	666	6	23	600	37
7			46.875	75.000	49.500	P	P	1056	80	160	800	16	625	3	21	600	1
8		XGA 1024x768	48.363	60.004	65.000	N	N	1344	136	160	1024	24	806	6	29	768	3
9			56.476	70.069	75.000	N	N	1328	136	144	1024	24	806	6	29	768	3
10			60.023	75.029	78.750	P	P	1312	96	176	1024	16	800	3	28	768	1
11		SXGA 1152x864	67.500	75.000	108.000	P	P	1600	128	256	1152	64	900	3	32	864	1
12			63.981	60.020	108.000	P	P	1688	112	248	1280	48	1066	3	38	1024	1
13			79.976	75.025	135.000	P	P	1688	144	248	1280	16	1066	3	38	1024	1
14	VGA TEXT	720x400	31.469	70.087	28.322	N	P	900	108	45	720	27	449	2	35	400	12
15	Macintosh	640x480	35.000	66.667	30.240	N	N	864	64	96	640	64	525	3	39	480	3
16		832x624	49.725	74.500	57.283	N	N	1152	64	224	832	32	667	3	39	624	1
17		1024x768	60.150	74.720	80.000	N	N	1330	96	168	1024	42	805	3	31	768	3

3. Front Panel Function Control Description

Auto Adjust

Though your computer system can identify the new LCD monitor system, the Auto Adjust function can be as to enhance the display. To enter adjust mode, please refer to “OSD Control”.

- ◆ Turn the computer and LCD monitor on.
- ◆ Press ‘Auto’ button to start Auto Adjust.
- ◆ The LCD monitor will start the Auto Adjust process automatically for 10 consecutive seconds, where you will notice the image change as the Auto Adjust is working.

Self Test Function

Check (STFC):

- ◆ Your LCD monitor provides a STFC function, through which you can check whether the LCD monitor functions are working properly.
- ◆ If your LCD monitor is properly connected, but there is no image showing and the indicator light keeps orange, please follow the steps below to start STFC.
 - ☐ Shutdown computer and LCD monitor.
 - ☐ Unplug the signal connector from the back of computer.
 - ☐ Turn the LCD monitor on.

If the image connector is disconnected or damaged, the image shown on following figure will also appear during normal operation.

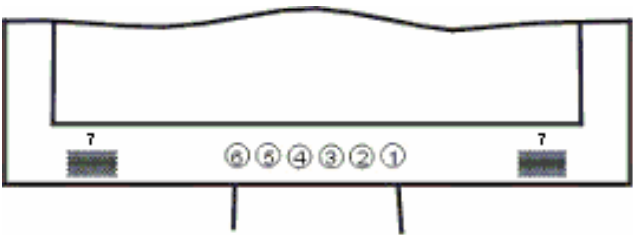


- ☐ Turn off the LCD monitor and reconnect signal cable, and then turn the computer and LCD monitor on.
- ◆ If the LED of the LCD monitor is an orange color after completing the steps above, please check your VGA card and computer system. Your monitor should be operating properly.

OSD Control

Keypad Button Definition

Thanks to the user-friendly design of OSD (On Screen Display), you can adjust your monitor by the keypads in the front of the monitor.

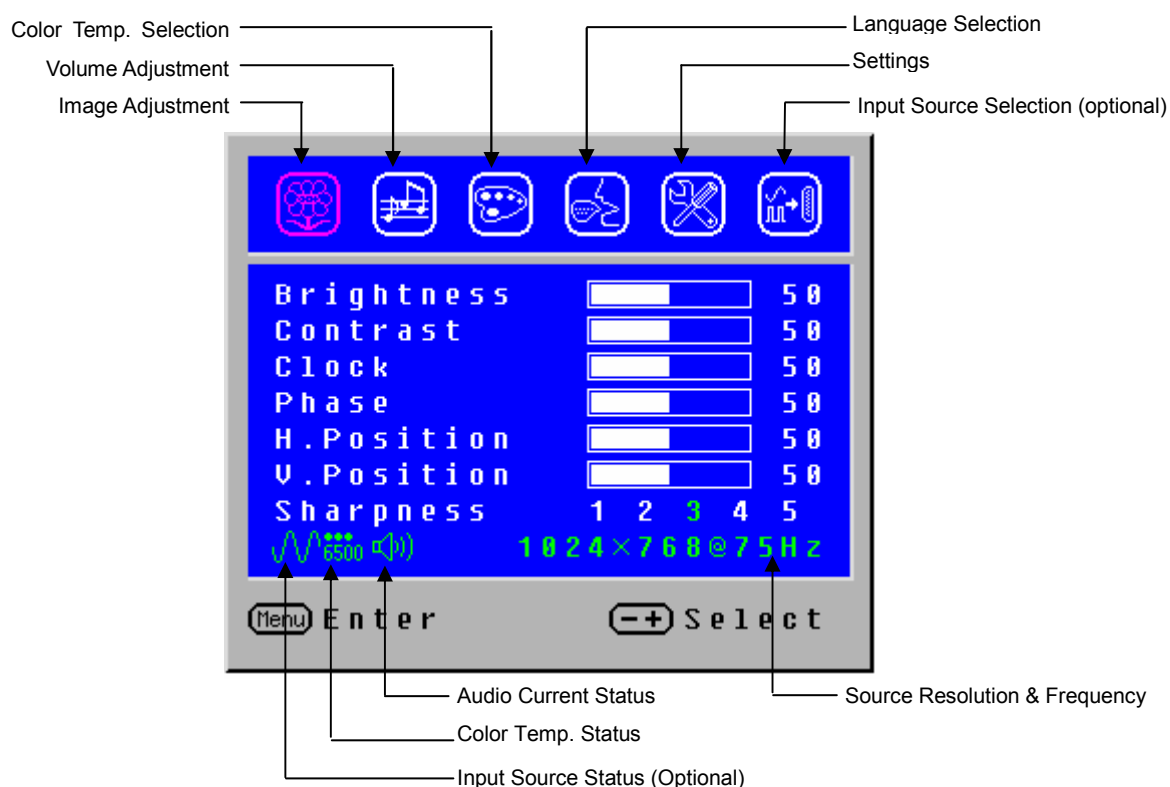


1	Power Switch	Power On/Off
	LED	Power Indicator Green: Normal Orange: Power Saving Off: Power Off
2	Auto / Exit	Automatically optimize positions, phase & clock when OSD is not shown Exit the OSD menu when OSD is shown
3	Turbo	Quick brightness switching
4		Selection or adjustment when OSD is shown Quick brightness adjustment
5		Adjustment when OSD is shown Quick contrast adjustment
6	Menu	Enter OSD Access sub-menu & selection
7	Speaker	

Operate Explanation

Your LCD has been adjusted to its optimal status before shipment. You can also adjust the image in accordance with the following illustrations and steps.

- ◆ Press the “Menu” button to start the OSD feature.
- ◆ Click the “+” or “-” button to select the function to be adjusted.
- ◆ Click the “Menu” button to access into the function to be adjusted.
- ◆ Click the “+” or “-” button to change the current setting of the function.
- ◆ To exit the OSD menu or go back to the previous action by clicking the “Auto/Exit” button. It will save the change automatically.
- ◆ To repeat above steps for changing the setting of other functions.

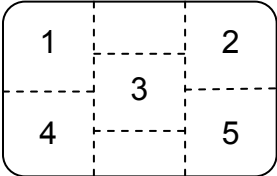


Notes

- ◆ The OSD disappears several seconds after you stop pressing the buttons while performing an adjustment.
- ◆ Any changes are automatically saved in the memory when the OSD disappears. Turning off the power should be avoided while using the menu.
- ◆ Adjustments for clock, phase and positions are saved for each signal timing. Except for these adjustments, all other adjustments have only one setting which applies to all signal timings.
- ◆ The color will change from white to pink while the function is selected.

Adjustment of Screen

Function Definition

Primary Directory	Secondary Directory	Description
Image	Brightness	Adjust the brightness of the screen.
	Contrast	Adjust the contrast of the image.
	Clock	Adjust the clock pulse of the image.
	Phase	Adjust the focus of the image.
	H. Position	Move the image left and right on the screen.
	V. Position	Move the image up and down on the screen.
	Sharpness	Adjust the picture sharpness of lower resolutions.
Audio	Volume	Adjust the volume of the audio.
	Mute	Set up the audio to be mute on or off.
Color	9300K	Set up the color temp. to be 9300K white color.
	7500K	Set up the color temp. to be 7500K white color.
	6500K	Set up the color temp. to be 6500K white color.
	User/Red	Adjust red/green/blue gain.
	User/Green	
	User/Blue	
Language	English	Select the language you want.
	Français	
	Italiano	
	Deutsch	
	Español	
	日本語	
	简体中文	
	繁體中文	
Settings	OSD Timeout	Adjust OSD display time setting.
	OSD Position	Move OSD display position to any one of the following 5 positions within the overall screen. 
	Auto Setting	Set up to adjust clock, phase and positions automatically.
	Recall	Restore to factory settings
	Input Source	Select Analog input source: 
(Optional)	Digital	Select Digital input source: 

Direct

You can skip the Menu pages and display an adjustment scale directly by using the following button operations:

- ◆ Brightness: Press the Brightness Button when the Menu is not displayed.
- ◆ Contrast: Press the Contrast Button when the Menu is not displayed.
- ◆ Auto Setting: Press the Auto Button when the Menu is not displayed.
- ◆ Turbo: Press the Input Button when the Menu is not displayed.
 - ☐ Pct: Picture Mode (High brightness)
 - ☐ Text: Text Mode (Normal)
 - ☐ Eco Economy (Brightness of back-light is reduced)
 - ☐ Changing to a lower brightness mode can lessen eye fatigue.
 - ☐ Change from Picture Mode to Text Mode when working with text.
 - ☐ Change from Text Mode to Economy Modes when viewing the screen for long periods.

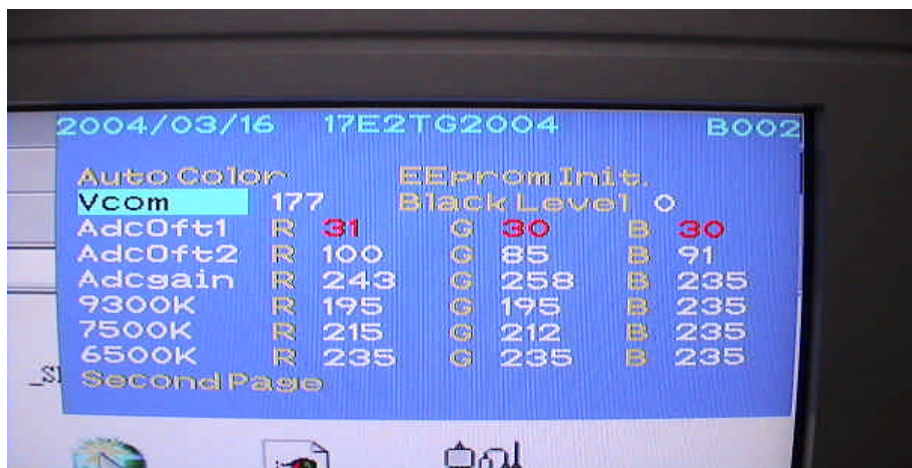
Hot Keys for Function Controls

[Power on/off]	Main Menu
[Auto/Exit]	Input toggle (Analog or Digital) or Auto Image Adjust.
[+] or [-]	To immediately activate Contrast menu. It should be change to Brightness OSD by push button [2]
[+] + [-]	Recall both of Contrast and Brightness to default
[Power on/off] + [Auto/Exit]	Toggle 720x400 and 640x400 mode when input 720x400 or 640x400 mode
[Power on/off] + [+] + [-]	White Balance. (Not shown on user's guide)
[Power on/off] + [-]	Power Lock
[Power on/off] + [+]	OSD Lock
1. Turn off [Power on/off] button 2. [+] + [-] + [Power on/off] at same time 3. Press [Menu]	All Mode Reset. It will erase all end users' setting and restore the factory defaults.
1. Turn off [Power on/off] button 2. [+] + [-] + [Power on/off] at same time 3. Press [Menu]	Burn in Mode. After entering Burn in Mode, press Power on/off button, you will find the information about this BIOS
Remark: All the short cuts function are only available while OSD off	

Hot Keys for Factory Control

1. Turn off [Power on/off] button.
2. Press [+] + [-] + [Power on/off] at same time
3. Press [Menu]

Then you will see the BIOS update picture show in the screen as below.



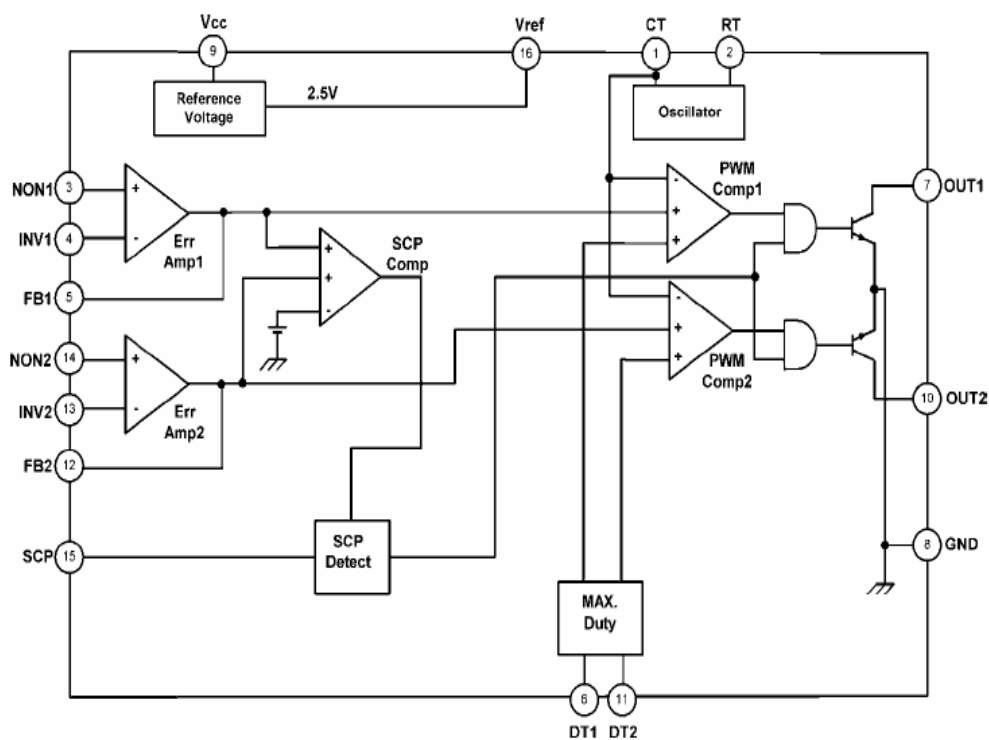
4. Circuit Description

Circuit Description

1. Power supply (DC/DC Converter)

The AT1741 is 2-channel PWM switching regulator controllers that contains an on-chip 2.5V reference, two error amplifier, an adjustable oscillator, two dead-time comparators, under voltage lockout circuitry and 2 common-emitter output. It is idea for step-up, step-down, and inverting converter.

Block Diagram



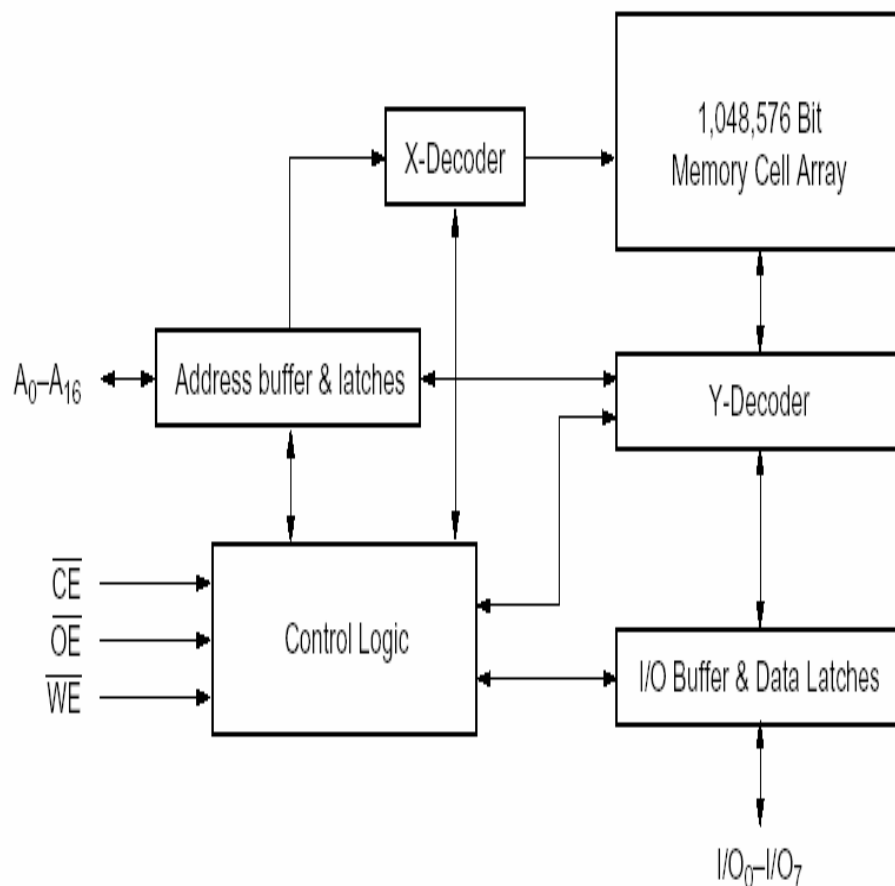
2. Flash Memory

The F29C51001T/F29C51001B is a 1 Megabit, 5.0 Volt-only Flash Memory organized as 131,072 bytes of 8 bits each. This device is designed to use a 4.7 Volt to 5.3 Volt power supply to perform in-system programming.

The 1 Megabit memory array is divided into thirty-two uniform blocks of 4 Kbytes each for data and/or code storage.

The block architecture allows users to flexibly make chip erase or block erase operation. The block erase feature allows a particular block to be erased and reprogrammed without affecting the data in other blocks. After the device performs chip erase or block erase operation, it can be reprogrammed on a byte-by-byte basis.

Functional Block Diagram



51001-05

3. GM5120

The gm5116/26 is a graphic processing IC for Liquid Crystal Display (LCD) monitors at XGA/SXGA resolution. It provides all key IC functions required for the highest quality LCD monitors. On-chip functions include a high-speed triple-ADC and PLL, Ultra-Reliable DVI™ receiver, a high quality zoom and shrink scaling engine, an on-screen display (OSD) controller, digital color controls and an on-chip microcontroller (OCM). With this level of integration, the gm5116/26 devices simplify and reduce the cost of LCD monitors while maintaining a high-degree of flexibility and quality.

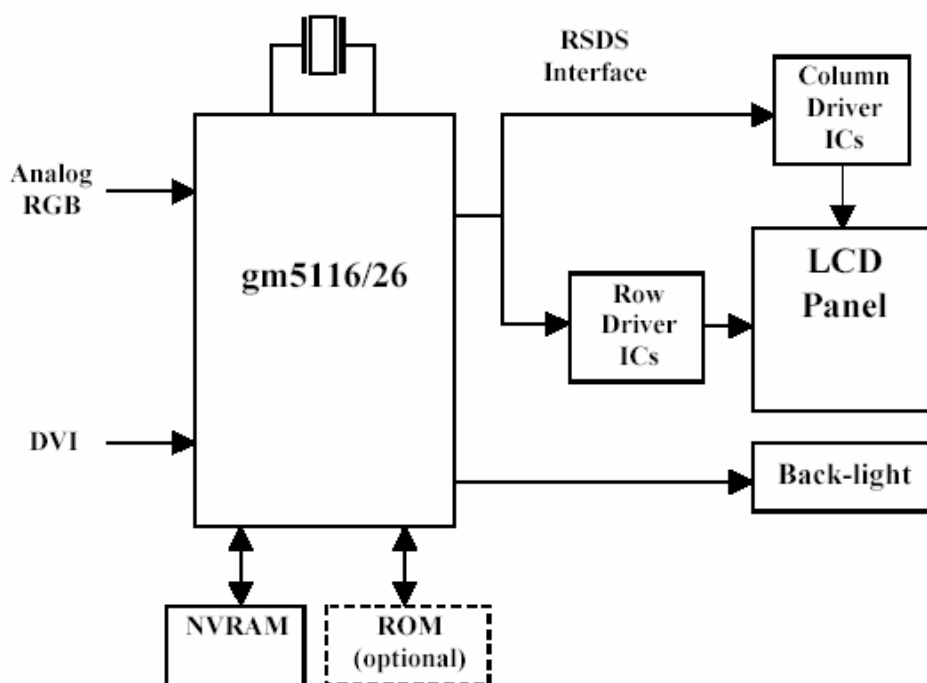


Figure 1. gm5116/26 System Design Example

4. LVDS (THC63LVDM83A)

The THC63LVDM83A transmitter converts 28 bits of CMOS/TTL data into LVDS (Low Voltage Differential Signaling) data stream. A phase-locked transmit clock is transmitted in parallel with the data streams over a fifth LVDS link. The HC63LVDM83A can be programmed for rising edge or falling edge clocks through a dedicated pin. The THC63LVDF84A receiver converts the LVDS data streams back into 28 bits of CMOS/TTL data with falling edge clock. At a transmit clock frequency of 85MHz, 24 bits of RGB data and 4 bits of LCD timing and control data (HSYNC, VSYNC, CNTL1, CNTL2) are transmitted at a rate of 595 Mbps per LVDS data channel.

5. Adjusting Procedure

A. Function Test and Alignment Procedure

1. All Modes Reset

You should do “All Model Reset” (Refer to Chap 3. Hot Keys for Function Controls) first. This action will allow you to erase all end-user’s settings and restore the factory defaults.

2. Auto Image Adjust

The Auto Adjust is aimed to offer a best screen quality by built-in ASIC. For optimum screen quality, the user has to adjust each function manually.

A. Turn the computer and LCD monitor on.

B. Press the ‘Auto’ button on monitor keypad to Auto Adjust.

C. The LCD monitor will start the Auto Adjust process automatically and run for 10 consecutive seconds, during which time you will notice the image change.

3. Firmware

Test Pattern : Burn in Model (Refer to Chap3. Hot Keys for Function Control)

-Make sure the F/W is the latest version.

4. DCC

Test Pattern: EDID program

-Make sure it can pass test program.

5. Window Shut Down

Test Signal: 1280*1024@60Hz

Test Pattern: (Refer to Page 22, Figure 5,6)



Checked Pattern Every One Pixel (50% Green & 50% Blue)

Inspection Item: Flicker, Mura

6. Window BG

Test Signal: 1280*1024@60Hz

Test Pattern:



Window standard pattern

Inspection Item: Line Defect, Function Defect & Mura

7. 25 Gray

Test Signal: 1280*1024@60Hz

Test Pattern:



Full Screen 25% White (Gray)

Inspection Item: Particle, Line Defect & Mura

8. 50 Gray

Test Signal: 1280*1024@60Hz

Test Pattern:



Full Screen 50% White (Gray)

Inspection Item: Bright Dot, Particle, Line Defect & Mura

9. White Box

Test Signal: 1280*1024@60Hz

Test Pattern: (Refer to Page 22, Figure 7)



Window standard pattern

Inspection Item: Particle, Line Defect, Power, Image Remain & Mura

10. Black Box

Test Signal: 1280*1024@60Hz

Test Pattern: (Refer to Page 21, Figure 3)



Window standard pattern

Inspection Item: Bright Dot, Line Defect & Power

11. RED

Test Signal: 1280*1024@60Hz

Test Pattern: (Refer to Page 21, Figure 4)



Full Screen Red

Inspection Item: Bright Dot, Partial & Line Defect

12. Green

Test Signal: 1280*1024@60Hz

Test Pattern:



Full Screen Green

Inspection Item: Bright Dot, Partial & Line Defect

13. Blue

Test Signal: 1280*1024@60Hz

Test Pattern: (Refer to Page 22, Figure 6)



Full Screen Blue

Inspection Item: Bright Dot, Partial & Line Defect

14. Gray_Scale_0-100_V256

Test Signal: 1280*1024@60Hz

Test Pattern: (Refer to Page 21, Figure 1)



Vertical 64 (256) Gray Scale (Right → Left, From 0 to 100% White)

Inspection Item: Line Defect & Function Defect

15. Gray_Scale_0-100_H256

Test Signal: 1280*1024@60Hz

Test Pattern: (Refer to Page 21, Figure 2)



Horizontal 64(256) Gray Scale (Up → Down, From 0 to 100% White)

Inspection Item: Line Defect & Function Defect

16. Block Window

Test Signal: 1280*1024@60Hz

Test Pattern:

Black block at the center



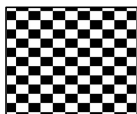
Inspection Item: Cross Talk & Optical Character

17. Black_Tile

Test Signal: 1280*1024@60Hz

Test Pattern: (Refer to Page 22, Figure 8)

Black tile under white background



Inspection Item: Function Defect & Image Remain

18. Function Test Display pattern

Item	Pattern	Description	Remark
1	Gray_Scale_0-100_V	Vertical 64 (256) Gray Scale	Figure 1
2	Gray_Scale_0-100_H	Horizontal 64 (256) Gray Scale	Figure 2
3	Black	Full Screen Black	Figure 3
4	Red	Full Screen 50% Red	Figure 4
5	Green	Full Screen 50% Green	Figure 5
6	Blue	Full Screen 50% Blue	Figure6
7	White	Full Screen White	Figure7
8	Black_Tile	Black Tile Under White Background	Figure 8

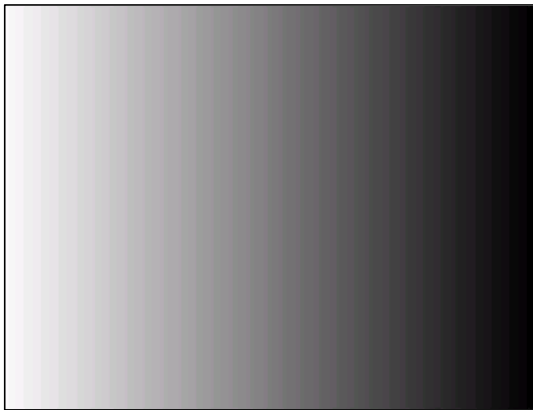


Figure 1



Figure 2

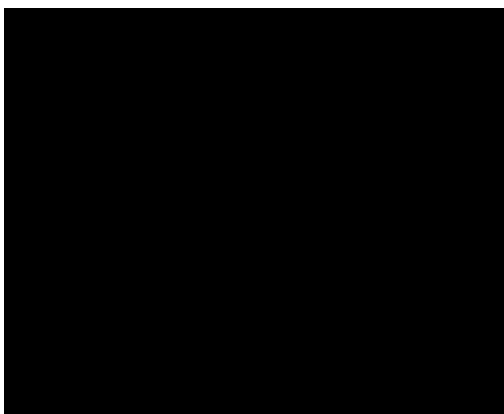


Figure 3



Figure 4

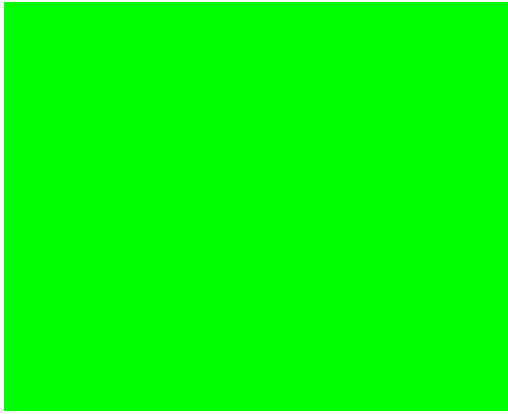


Figure 5



Figure 6

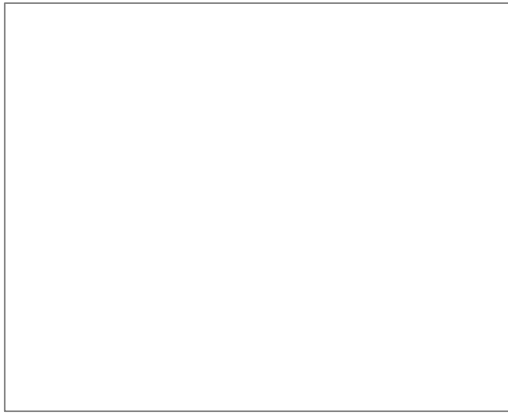


Figure 7

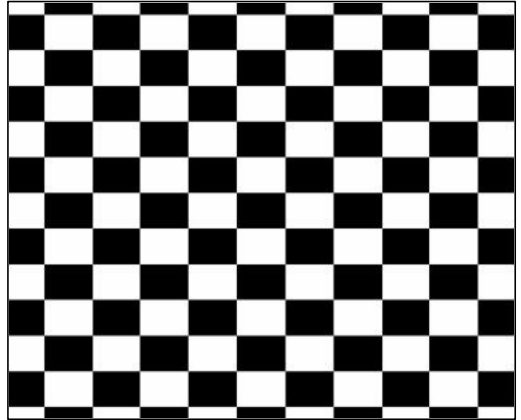


Figure 8

B. BIOS update procedure

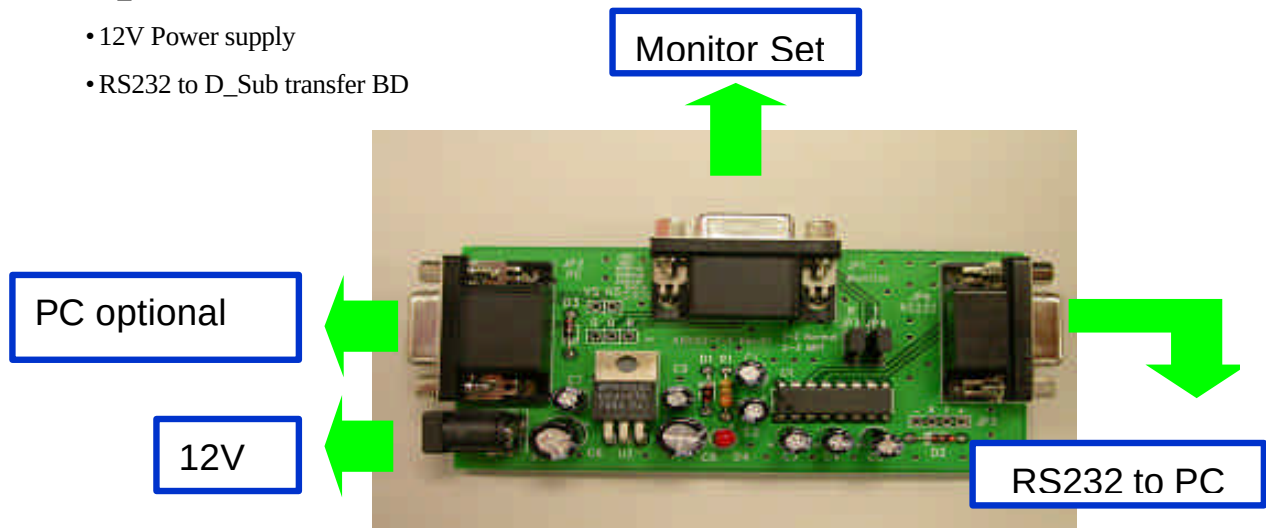
BIOS Update User Guide For ViewSonic

BIOS Update Flow for Genesis

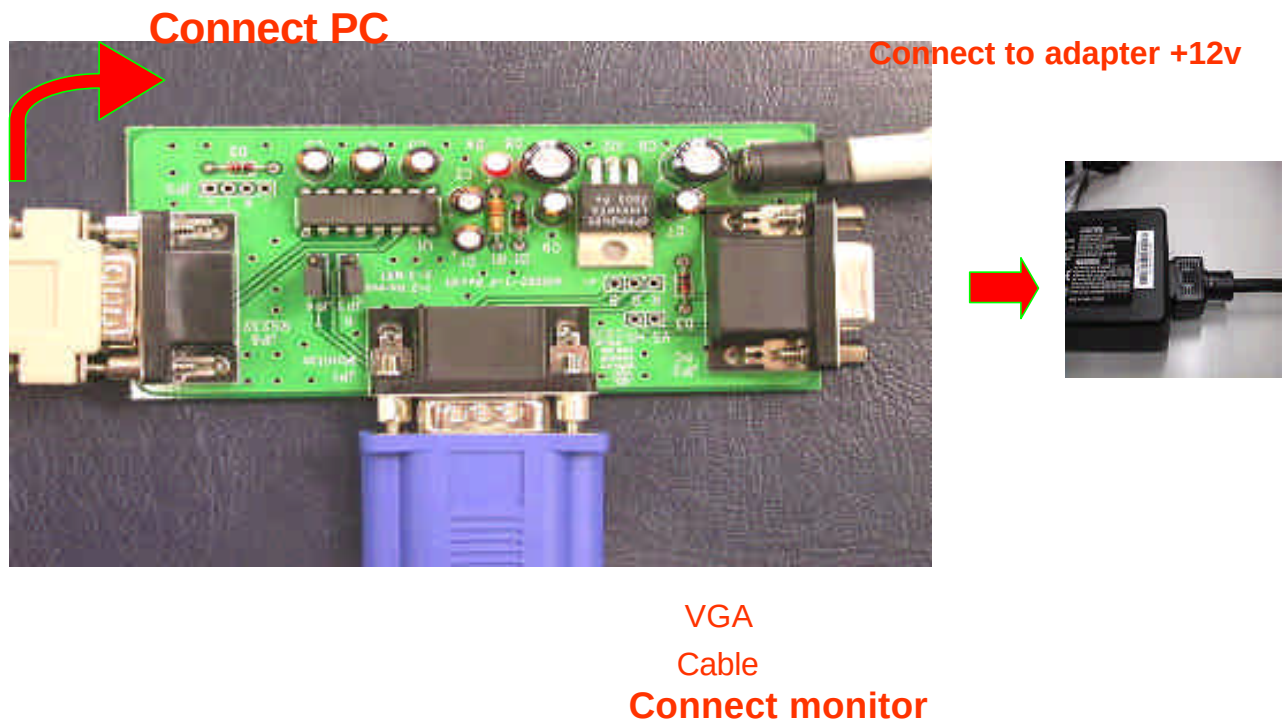
1. Program :

1.1 Hardware Installation

- RS232 cable (9 Pin)
- D_Sub cable (15Pin)
- 12V Power supply
- RS232 to D_Sub transfer BD



1.2 Join R232, monitor cable, and adapter. Detail, see the example picture as below.



1.3 Software

A. Please download the file “Genesis” from CMO E-Sir system. There are ISP & BIOS two files, kindly see as below.

a) ISPACK.EXE: Main program



GProbe4.2.0.3.exe

b) Ancillary .ISPACK.EXE : Description program



GProbe4.2.0.3_gm5126.exe

1.4 Installation :

A. Please install the programs respectively as below.



GProbe4.2.0.3.exe



GProbe4.2.0.3_gm5126.exe

Before Setup produce **GProbe 4** file . Please set at ISP & BIOS software file.

B. I S & BIOS software file to be about to produce the next. (If the file existence already, needn't to repeat.) This system is applied to Win 95/98/NT/2000



ISP.GProbe

1.5 ISP Execution



Gprobe.exe

: ISP exe. Main program



Pre.txt

: Drive write file.



Readme.txt

: Drive read file.

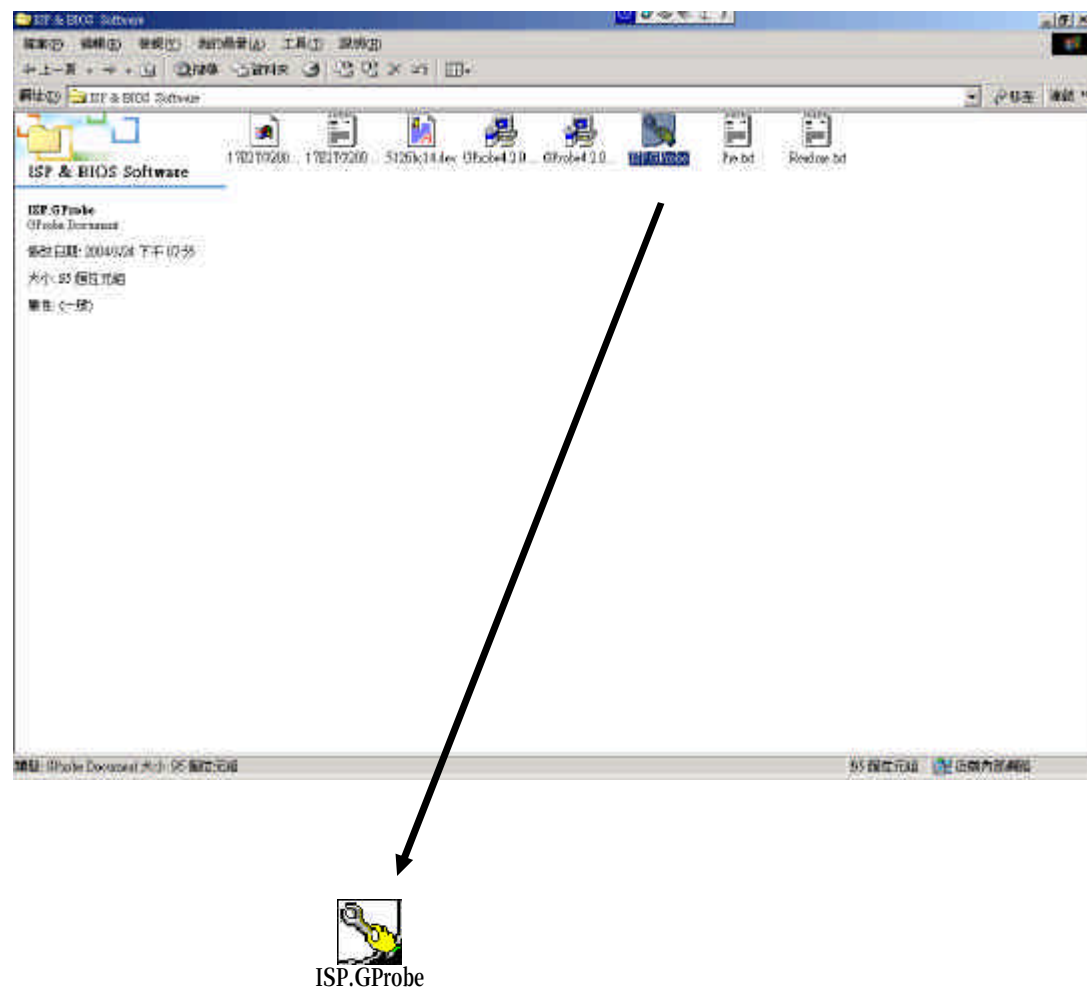


5126bc14.dev

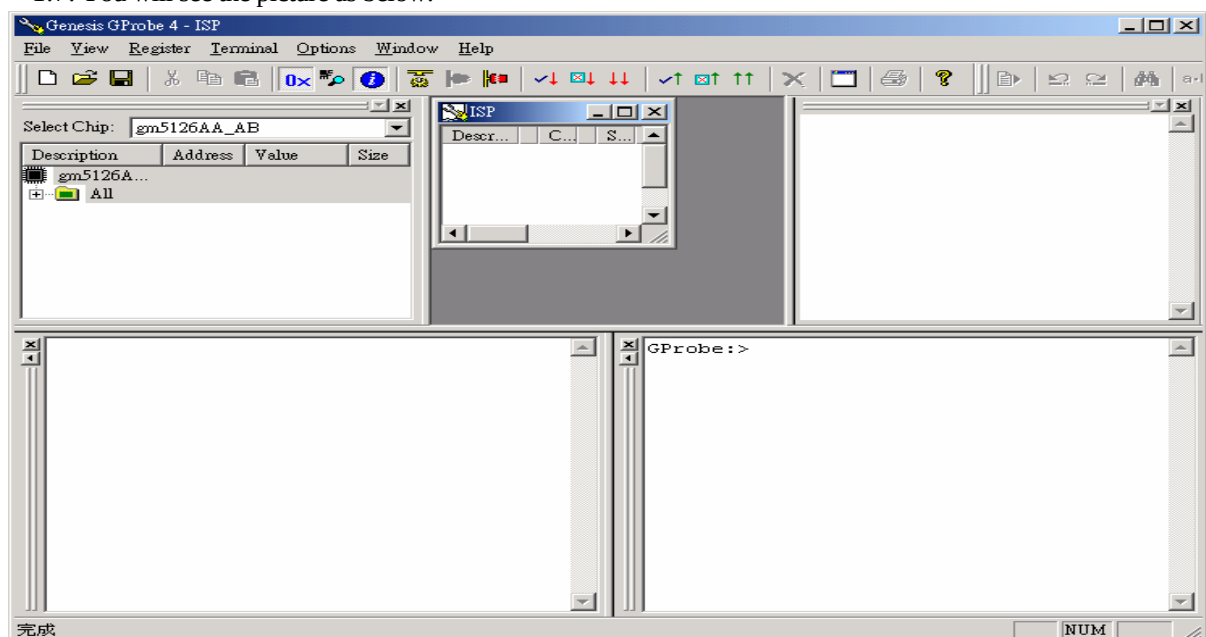
: Ancillary file.

Please copy all the files above to the same directory

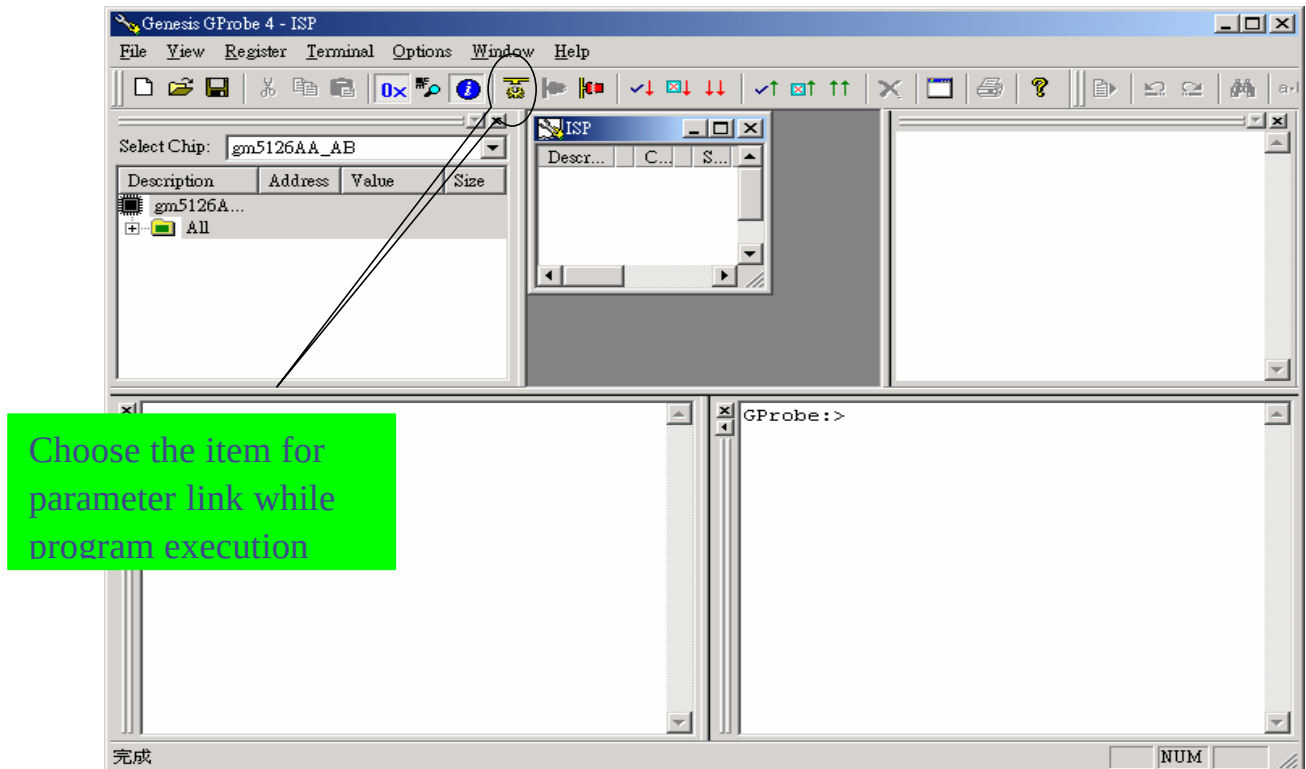
1.6. Open ISP.Gprobe while parameters set up have been completed.



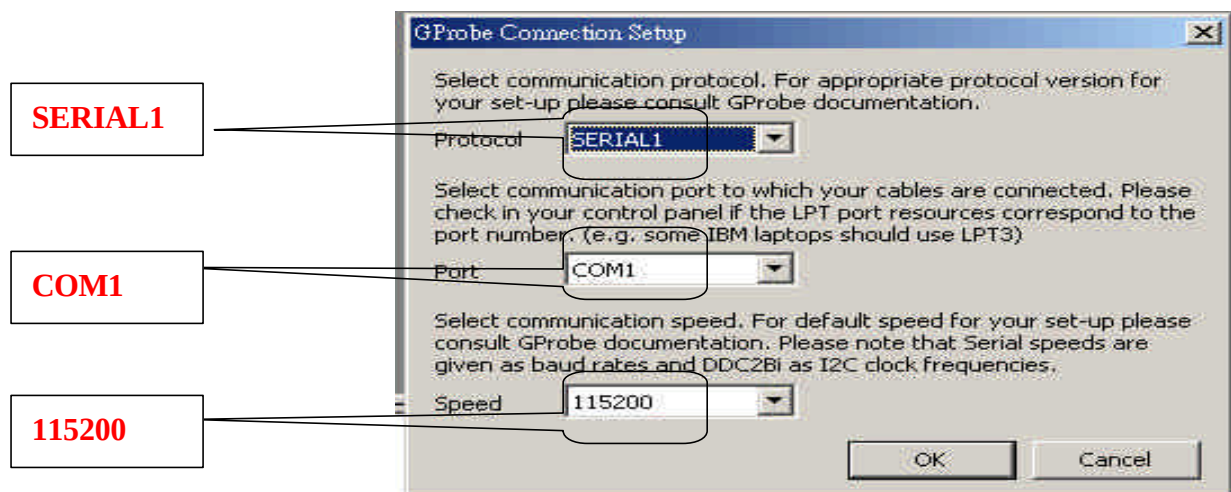
1.7. You will see the picture as below.



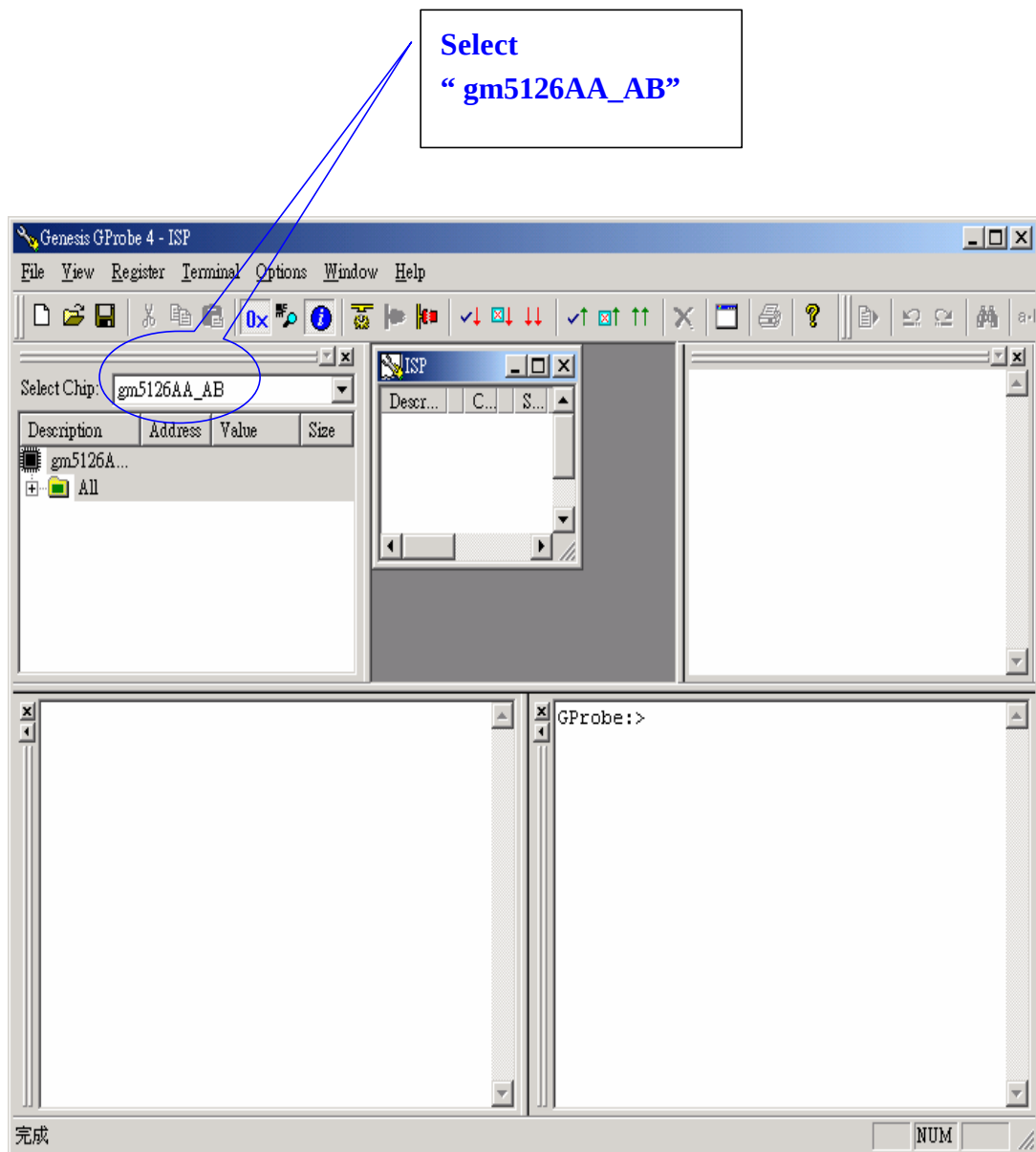
1.8. Execute the main program (Grobe).



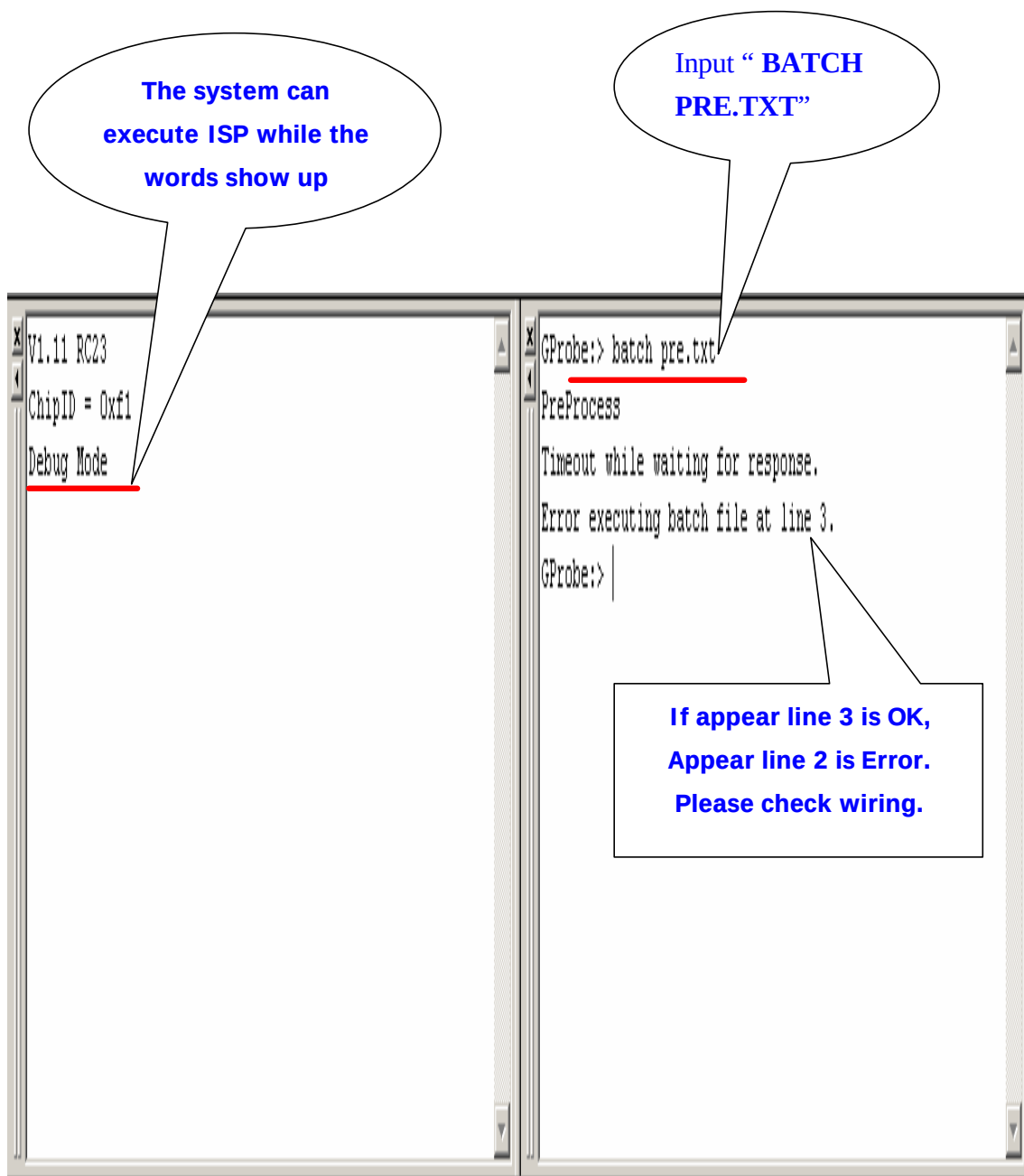
1.9 Please follow up the parameter set up shown as below :



1.10 Select “gm5126AA_AB”

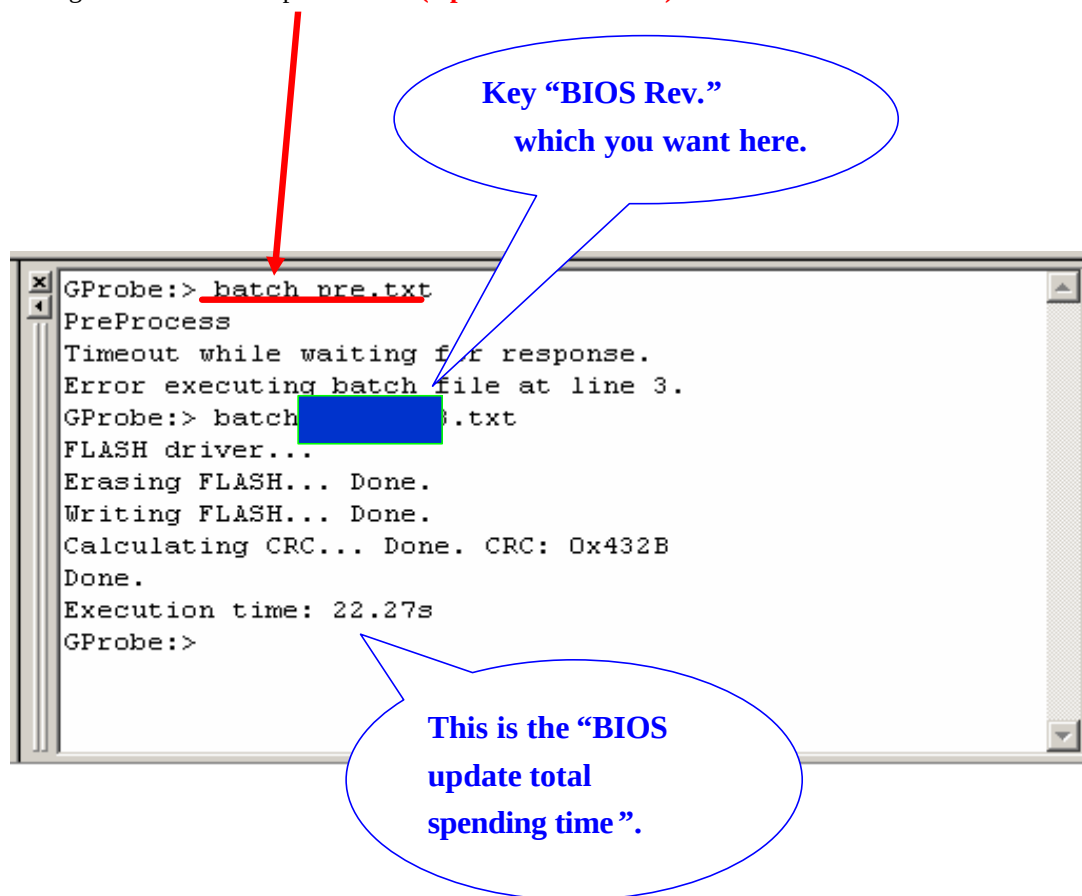


1.11 Execute Pre.txt : Input **BATCH PRE.TXT**



1.12 Please check the entity connection and execute Gprobe 4 again once Debug Mode did not show up

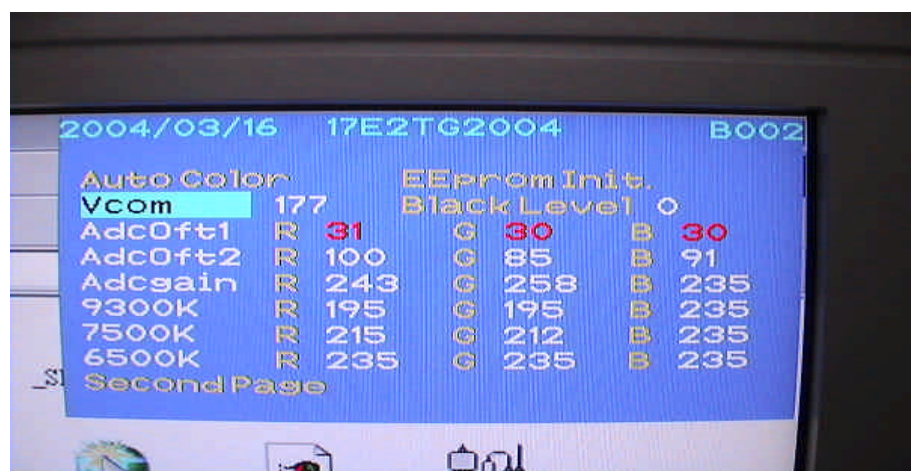
ISP Program execution : Input **BATCH (update of BIOS Rev) .TXT**



※ If failed, Please don't turn off power. Repeat do it again, from step 6 to step 7.

1.13 When everything is done. Please turn off the power and restart it again.

Check Factory Mode and make sure it already be updated.



C. Monitor Assembly and Disassembly

1. Separate Stand Assy

Remove Stand Cover



Step 1 : Take out Stand Assy



Step 2 : Remove 2 Cover Hinges



Step 3 :Loose and Remove 6 screws



Step 4: Remove Stand Assy

2. Separate Rear Cover (Rear Case Assy)

Loosen and remove 5 screws.

Separate Bezel hooks to take Bezel and Rear Cover apart



Step 1 : Loose and remove 5 screws.



Step 2 : Separate Bezel hooks to take Bezel and Rear Cover apart.



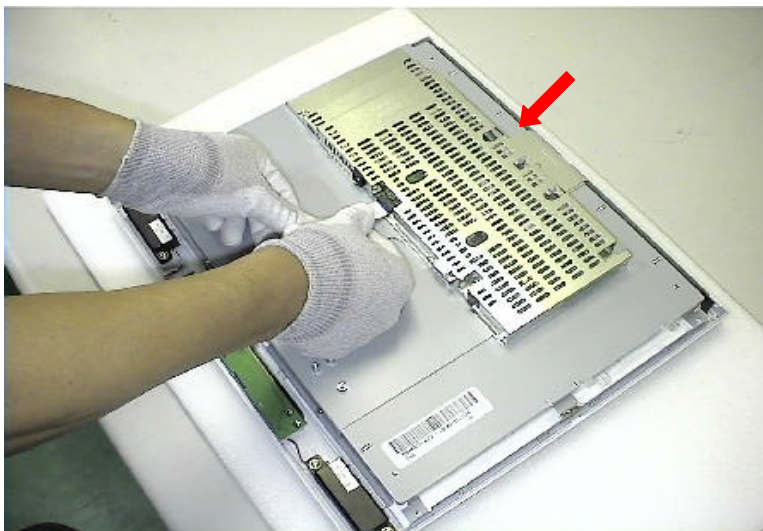
Step 3 : Remove Rear Cover

3. Remove Power Board

1. Remove the Tinfoil



2. Remove FFC



4. Remove Metal Cover

Step 1 : Loose and remove 2 screws



Step 2 : Loose and remove 6 screws



Step 3 : Remove the Cover of X-PCB

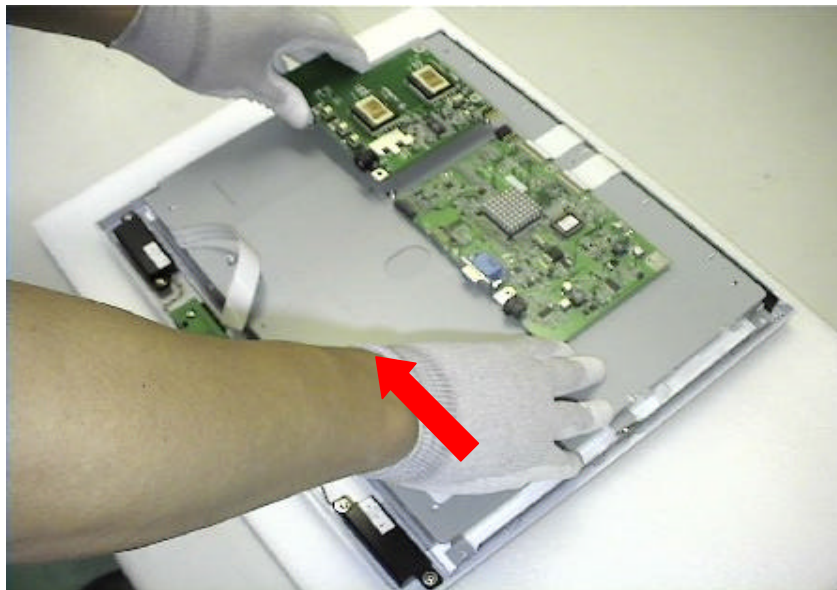


5. Remove Power PCBA

Step 1 : Loose and remove 3 screws



Step 2 : Remove Power PCBA



6. Change New Power Board

Step 1 : Insert New Power PCBA



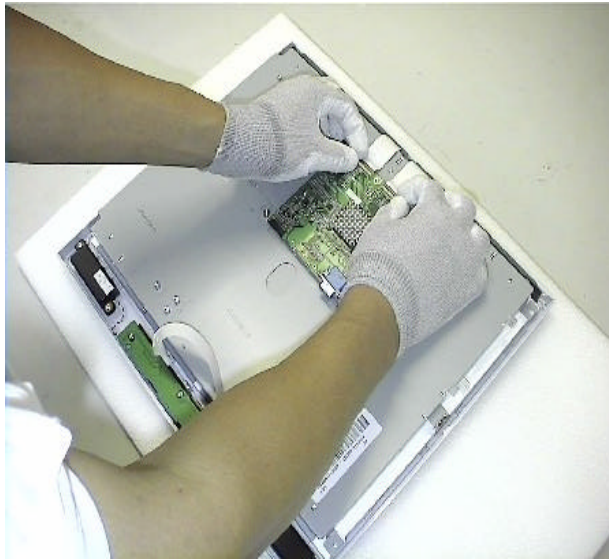
Step 2 : Fasten 3 fixed screws of Power PCBA



7. Remove AD PCBA

Remove FFC

Step 1 : Remove 2 FFC from AD PCBA



Remove AD PCBA

Step 1 : Loose and remove 1 screw



Step 2 : Remove AD PCBA



8. Change New AD PCBA

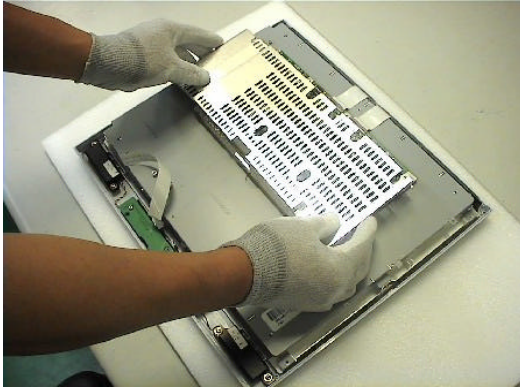
Step 1 : Place New AD PCBA



Step 2 : Insert 2 FFC



9. Metal Cover Assembly



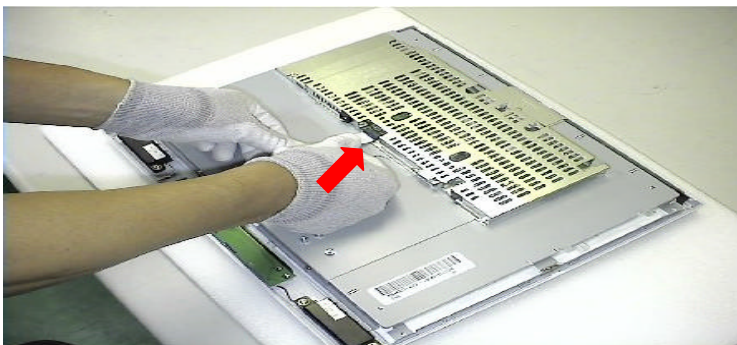
Step 1 : Join the cover hooks of X-PCB



Step 2 : Fasten the 6 screws



Step 3 : Fasten 2 screws



Step 4 : Insert FFC

Step 5 : Attach the Tinfoil

10. Separate Bezel Assy

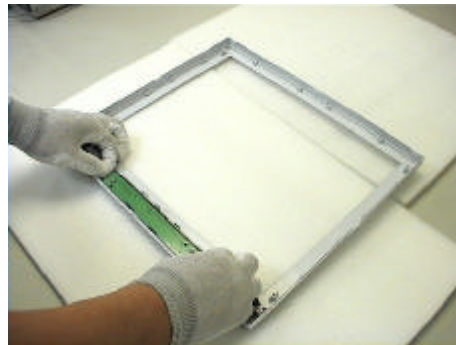


Step 1 : Lift up LCD module and remove Bezel

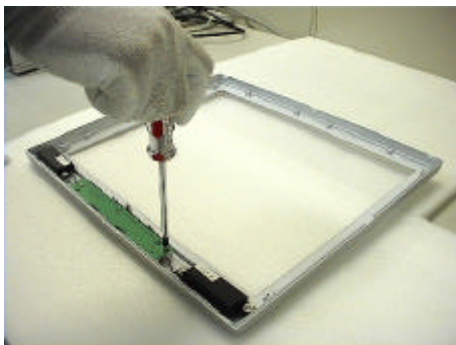
11. Remove OSD PCBA



Step 1 : Remove FFC



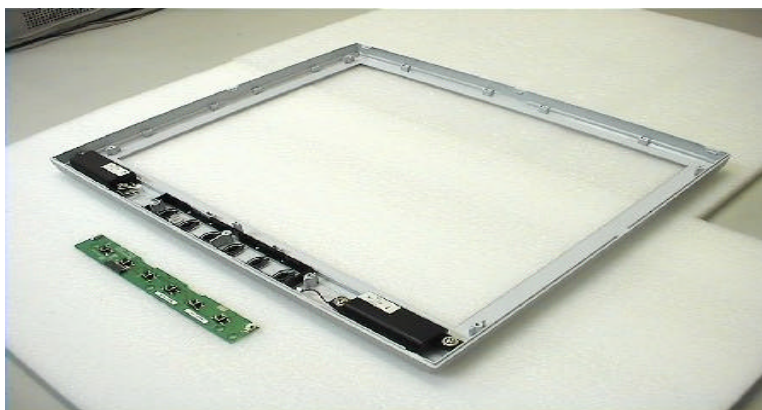
Step 2 : Separate both Audio Cable



Step 3 : Loose and remove 2 screws



Step 4 : Take OSD PCBA apart Completed

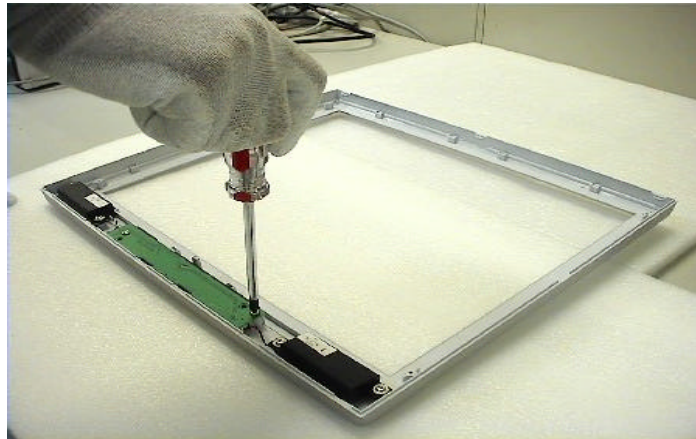


Step 5 : Completed

12. Change New OSD PCBA



Step 1 : Place New OSD PCBA

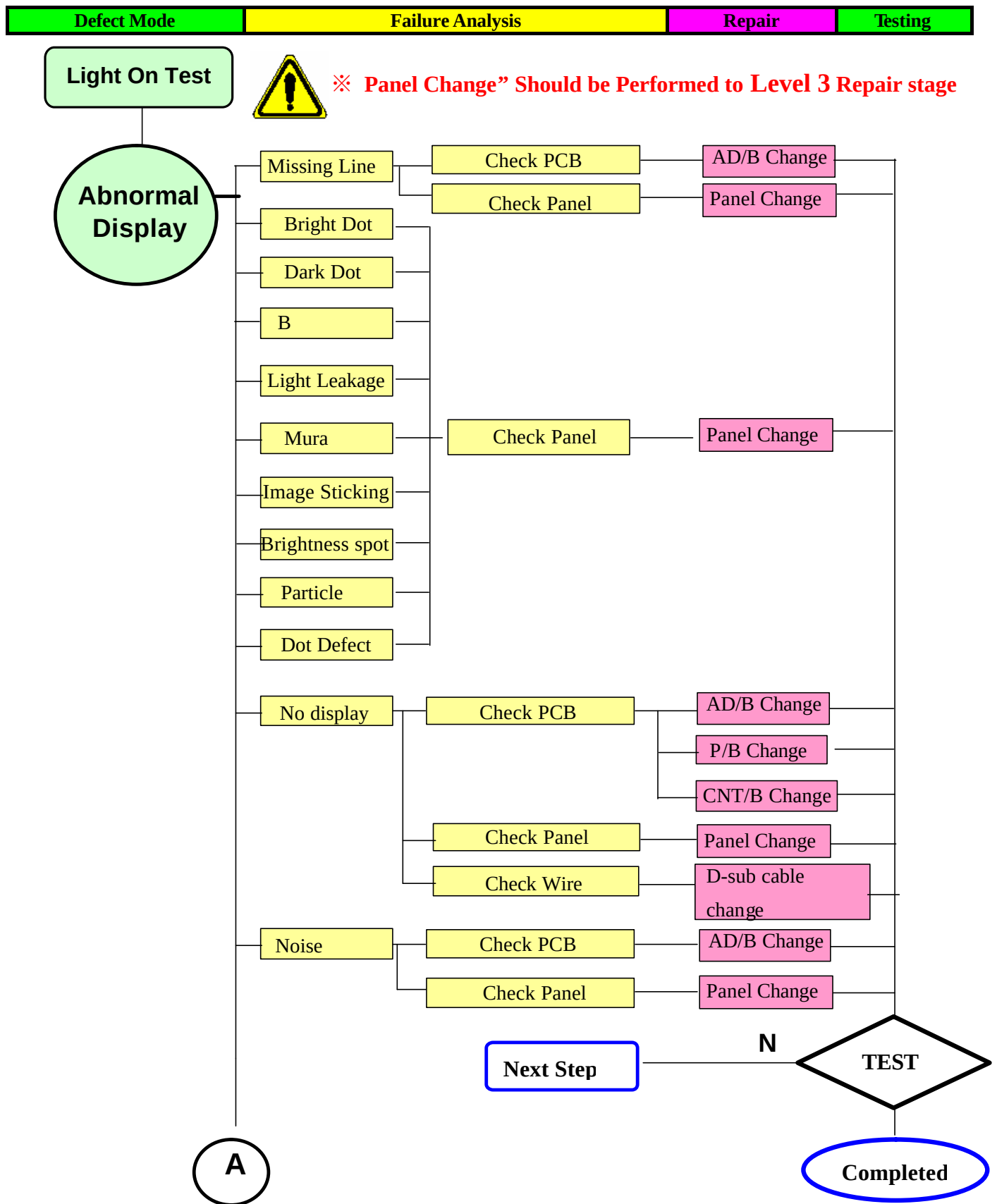


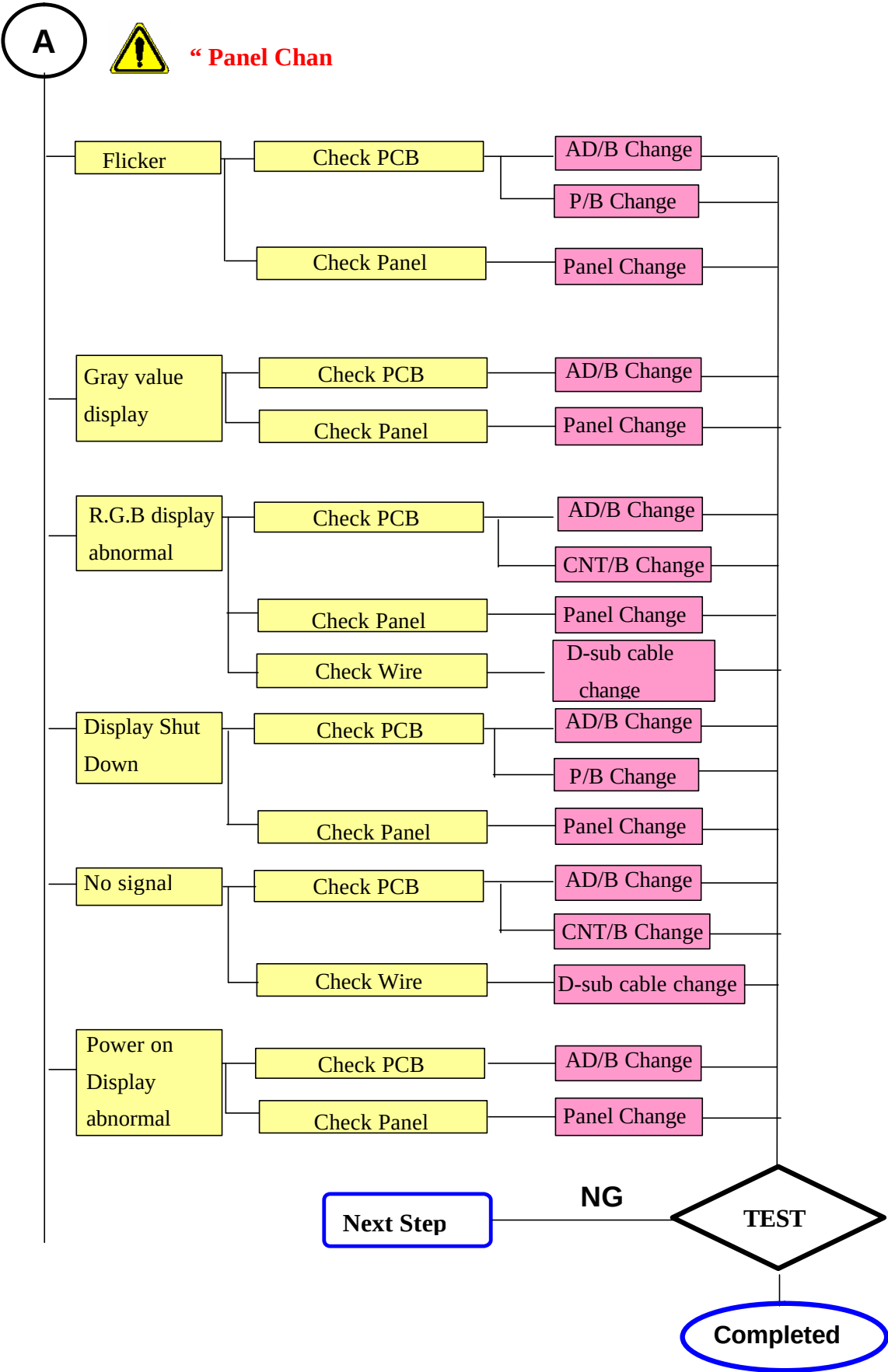
Step 2 : Fasten 2 screws



Step 3 : Insert Audit Cable to connectors of OSD PCBA

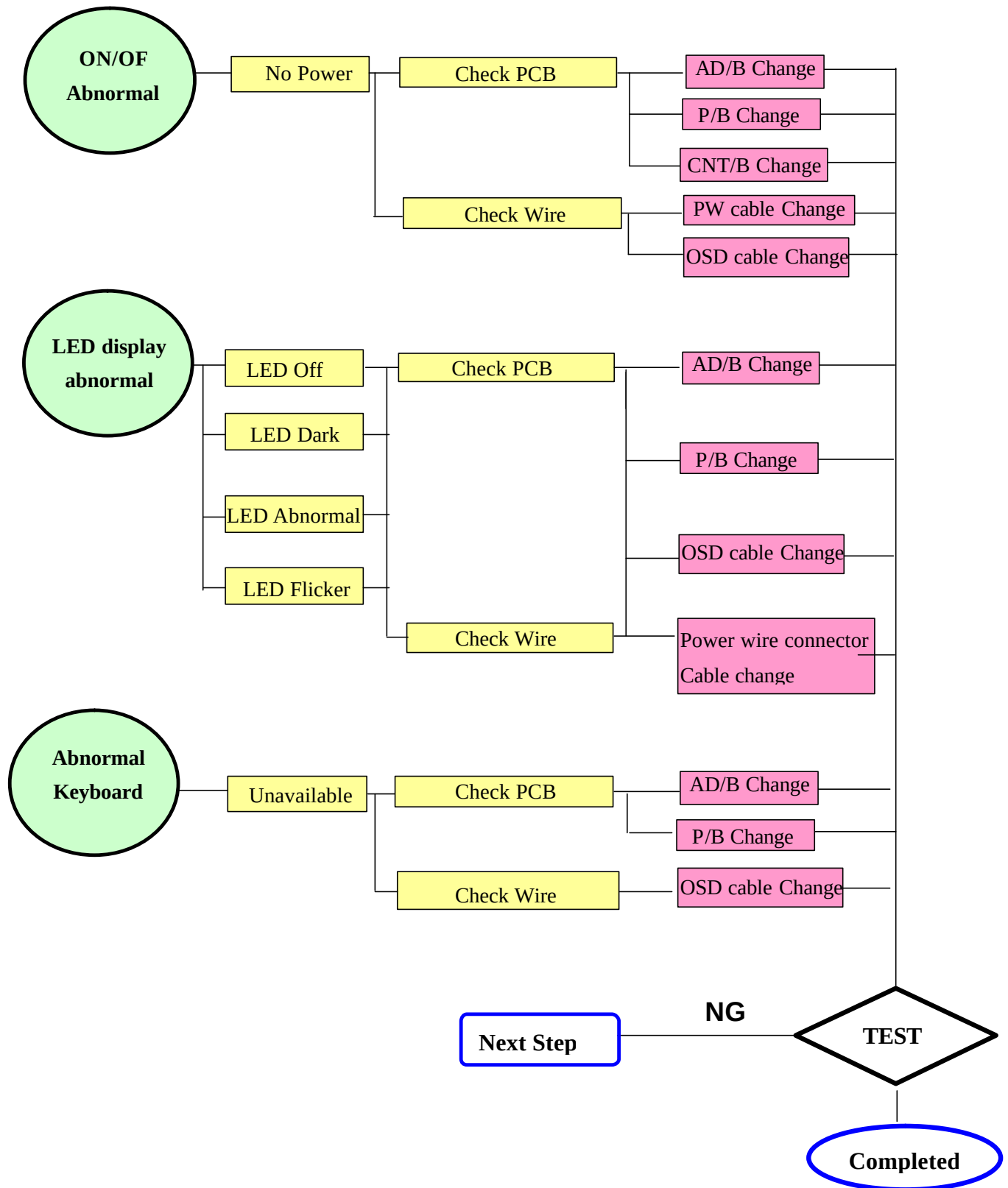
6. Trouble Shooting Flow Chart





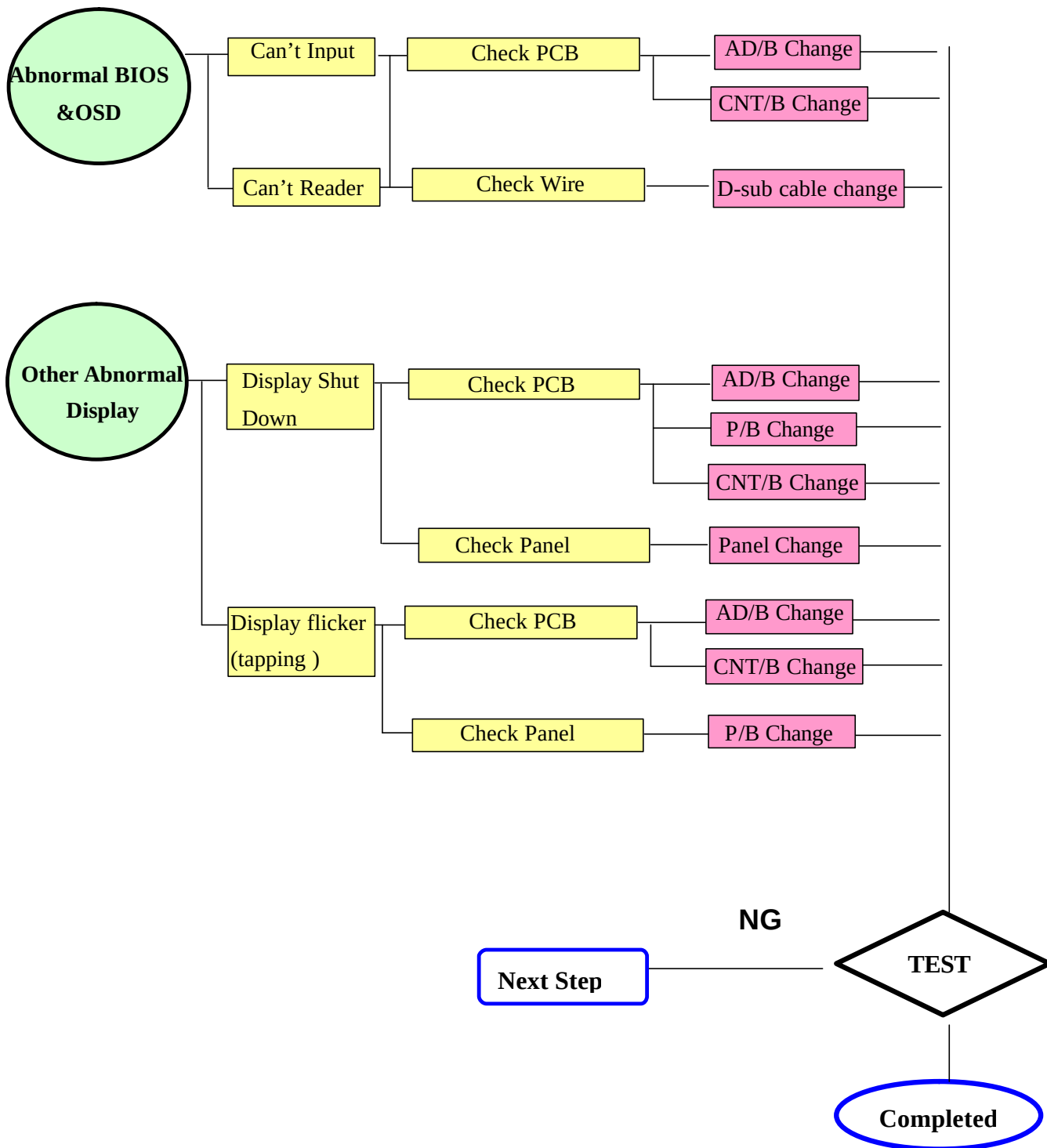


※ “Panel Change” Should be Performed to Level 3 Repair stage





※ “Panel Change” Should be Performed to Level 3 Repair stage



◆ Trouble Shooting Analysis

Check the information in this section to see if the problems can be solved before requesting repair.

Note : The consumers are only allowed to solve the problems described as below. Any unauthorized product modification, or failure to follow instructions supplied with the product will end the warranty immediately.

- **No image**
 - ◆ Make sure power button is ON.
 - ◆ Check whether the LCD monitor and computer power cords are plugged and whether there is a supply of power.
- **No Signal Input**
 - ◆ Check the signal connection between the computer and LCD monitor.
- **“Out of Range”**
 - ◆ Check the computer image output resolution and frequency and compare the value with the preset values (Please refer to [Appendix-Display Mode]).
- **Fuzzy Image**
 - ◆ Adjust Phase.
- **Image too bright**
 - ◆ Adjust brightness and contrast by OSD.
- **Image too dark**
 - ◆ Adjust brightness and contrast by OSD.
- **Irregular image**
 - ◆ Check the signal connection between the computer and LCD monitor.
 - ◆ Perform Auto Adjust.
- **Distorted image**
 - ◆ Reset the LCD monitor
 - ◆ Take off extra accessories (such as signal extension cord).
- **Image is not centered**
 - ◆ Use OSD Image Menu to adjust H Position and V Position.
 - ◆ Check image size setting.
 - ◆ Perform Auto Adjust.
- **Size is not appropriate**
 - ◆ Use OSD Image Menu to adjust H Position and V Position.
 - ◆ Check image size setting.
 - ◆ Perform Auto Adjust.
- **Uneven color**
 - ◆ Use OSD Color Menu to adjust color setting.
- **Color too dark**
 - ◆ Use OSD Color Menu to adjust color setting.
- **Dark area distorted**
 - ◆ Use OSD Color Menu to adjust color setting.
- **White color is not white**
 - ◆ Use OSD Color Menu to adjust color setting.

7. Recommended Spare Parts List

RECOMMENDED SPARE PARTS LIST (VE702m-1)

ViewSonic Model Number: VS10535

Rev: 1a

Item		Description	ECR/ECN	ViewSonic P/N	Ref. P/N	Q'ty
1	Accessories:	Adaptor(AC/DC),60W,19V,3.16A,UP060B1190-01B,POTRANS		A-00000457	2719060199	1
2		Power Cord,UL,SVT#18/3C,75 degreeC,LP-30B+LS-13,L=1830+/-		A-00000458	32E1818015	1
3	PC Board Assembly:	DC/AC Inverter,TWS-444-971,2560V(min)/5.5mA(type),Sumida		B-00000459	2714000016	1
4		PCBA For A170E2-T,A170E2-H-K,Rev.02,Rigid,202-01,(tum key)		B-00000460	35A17K0205	1
5		PCBA For A170E2-T,A170E2-T-S,X1,Rigid,202-01,(turn key)		B-00000461	35A17S0216	1
6	Cabinets:	Back Cover Rear Assy,A170E1-H0E,Black		C-00000466	40A1799243	1
7		BEZEL ASSY,A170E1-H0E,Analog,For ViewSonic(Silver)		C-00000462	40A17299A1	1
8		Cover ad-assy,A170E1,Tinplate,t=0.4mm,Autoassy		C-00000463	41A1799116	1
9		Cover Hinge,A170E1-H0E,ABS,Black		C-00000464	40A1792228	1
10		Cover-FFC,A170E1,Tin Plate,t=0.4mm		C-00000465	41A1799102	1
11		Cover-Seat Assy,A170E1-H0E,877C(Silver)/Black		C-00000467	40A1799245	1
12		Stand Assy,A170E1-H0E,877C(Silver)		C-00000543	40A17999G9	1
13	Cables:	Audio Cable, A150X2,18AWG, 180cm, Black, JCE		CB-00000544	32F2818004	1
14		FFC_X,A170E1,45Pin,55*23mm		CB-00000545	3241702002	1
15		FFC-OSD,A170E1-H01,15Pin,180mm*14mm,Pitch=1.0mm		CB-00000546	3241700001	1
16		Monitor Cable,A150X2,30AWG,180cm,Black,JCE		CB-00000547	32F3018003	1
17	Documentation:	Label,Bar-Code Labe,55*13mm		DC-00000548	7741519181	1
18		Label,Bar-Code Label,50*25,A170E1-H0E,VSC		DC-00000549	77417191K0	1
19		Label,Carton Label,76.2*76.2, A170E1-H0E,VSC		DC-00000550	7741729166	1
20		Label,Safety Label,118x67, A170E1-H0E,VSC		DC-00000551	77417191J9	1
21		Menu(Quick Start Guide), A170E1-H0E,VSC		DC-00000552	7641701211	1
22	Hardware:	Screw,M3*P0.5*4,f 5.5*2,Steel		HW-00000553	42A9930008	2000
23		Screw,M3*P0.5*4,f 5.5*2,Steel		HW-00000554	42A9930008	2000
24		Screw,M3*P0.5*6,Steel		HW-00000555	42A9930014	2000
25		Screw,f 3*P1.27*12,f 5.5*2,Steel		HW-00000556	42A9990005	2000
26		Screw,f 3*P1.27*8,f 5.5*2,Steel		HW-00000557	42A9930017	2000
27	Miscellaneous:	Metal Frame Front Assy,A170E1,Tin Plate,t=0.4mm,For New Panel		M-00000558	41A1769104	1
28		Stand-Off 4 #-40*11.8		M-00000559	42A9940007	2000
29		Tape,Security Tape,OPP,L900xW50x0.045mm,VSC		M-00000560	7345511002	1
30		TAPE-CONDUCTIVE,AL,125*30*0.08,A170E1-H01,3M:AL-35R		M-00000561	7344711002	1
31	Packing Material:	Carton,450x140x466, A170E1-H0E,VSC		P-00000562	7841725265	1
32		Inner Box,348*290*38,A150X2-T05		P-00000563	7841535161	1
33		PE Foam Bag,Protector,490*560*0.13,A170E1-H09,White		P-00000564	7841719911	1
34		PE FOAM(Bottom),EPE,445*130*45mm,A170E1-H0A		P-00000565	7841749915	1
35		PE FOAM(Top),EPE,445*130*45mm,A170E1-H0A		P-00000566	7841749914	1
36	Plastics:	Support Plate,A170E1,SECC,t=1.0mm		PL-00000567	41A1799108	1

BOM LIST (VE702m-1)

ViewSonic Model Number: VS10535

Rev: 1a

Item	ViewSonic P/N	ReferenceP/N	Description	Location	Universal Number	Q'ty
1	#N/A	MH0E50BK01	17" Common BOM,E5,72%,Scan COG TFT Rev.C			1
2	#N/A	36X8607401	COG,Scan,Himax:HX8607APD400,256/263Ch	SIC		4
3	E-00000565	L3H007XXXX	LCD Panel, For 17.0" LCM, SXGA			1
4	#N/A	7344191016	COG ACF,AC-8405Z-23,1.5mm,50M/RL	SACF		0.005
5	#N/A	7344191002	ACF,AC7206(OLB),100M/RL	DACF		0.004
6	#N/A	36X8002551	TAB-DATA,A170E1,HIMAX:HX8002TB55	Data		10
7	#N/A	7344191011	ACF,AC-9051AR-35,100M/RL	PACF		0.004
8	#N/A	35A17X0211	PCBA For A170E2-H,A170E2-H-X,X4,Rigid,201-05,(ODM)	PCBA-X		1
9	#N/A	34A17X2X07	PCB For A170E2-H-X,X4,Rigid,(A17012614A)			1
10	#N/A	01056FR001	Chip Resistor,SMD,+5%,0603,1/16W,0 OHM	R4,R6,R7,R9,R15,R20,R28,R36,R44,R42,R45,R12		12
11	#N/A	01056F1011	Chip Resistor,SMD,+5%,0603,1/16W,100 OHM	R13,R14,R16~R19,R22~R27,R30~R35,R37,R38		20
12	#N/A	01058FR001	Chip Resistor,SMD,+5%,0805,1/10W,0 OHM	L1,L2		2
13	#N/A	050Z015561	Chip Capacitor,MLCC,Y5V,0603,100nF,25V,-20~+80%	C3,C16~C25,C27~C36		21
14	#N/A	050Z475381	Chip Capacitor,MLCC,Y5V,0805,4.7uF,10V,-20~+80%	C4,C5,C7,C9,C11,C13,C15		7
15	#N/A	050Z4754C3	Chip Capacitor,MLCC,Y5V,1206,4.7uF,16V,-20~+80%	C2,C26,C37,C39,C41,C43,C45		7
16	#N/A	250345S452	Connector,B-F,45pin,Hirose,FH12-45S-0.5SH	CN2,CN1		2
17	#N/A	7349951002	Silicone,TORAY/-9187L,330g			0.4
18	#N/A	PH0EFT3G03	17" Function BOM,Analog+Audio,Genesis,72%,Scan COG Semi-Auto Assy(West Lamp)			1
19	#N/A	2714000016	DC/AC Inverter,TWS-444-971,2560V(min)/5.0mA(type),Sumida	PCBA-P		1
20	#N/A	3241702002	FFC_X,A170E1,45Pin,55*23mm			2
21	B-00000461	35A17S0216	PCBA For A170E2-T,A170E2-T-S,X1,Rigid,202-01,(ODM)	PCBA-S		1
22	#N/A	34A17S2X07	PCB For A170E2-H-S,X1,Rigid,(A170126121)			1
23	#N/A	01056FR001	Chip Resistor,SMD,+5%,0603,1/16W,0 OHM	RP1,RA12,R15,R39,R41,R50,R59,R60,R61,R62,R63,R66,R68,R69,R70,R72,R80,R121,R172,R173		20
24	#N/A	01056F2001	Chip Resistor,SMD,+5%,0603,1/16W,20 OHM	R6,R8,R10,R48,R57		5
25	#N/A	01056F4701	Chip Resistor,SMD,+5%,0603,1/16W,47 OHM	R81,R83,R84,R86,R87,R88,R89,R91		8
26	#N/A	01016F5801	Chip Resistor,SMD,+1%,0603,1/16W,57.6 OHM	R7,R9,R11		3
27	#N/A	01056F1011	Chip Resistor,SMD,+5%,0603,1/16W,100 OHM	L1,L2,L3,R12,R13,RP18,RP24,R82,R102,R104		10
28	#N/A	01056F6811	Chip Resistor,SMD,+5%,0603,1/16W,680 OHM	R44,R46		2
29	#N/A	01056F0131	Chip Resistor,SMD,+5%,0603,1/16W,1K OHM	RP16,RA20,RP22,R67,R73,R117		6
30	#N/A	01056F2221	Chip Resistor,SMD,+5%,0603,1/16W,2.2K OHM	R25		1
31	#N/A	01056F2721	Chip Resistor,SMD,+5%,0603,1/16W,2.7K OHM	R79,R78		2
32	#N/A	01056F4721	Chip Resistor,SMD,+5%,0603,1/16W,4.7K OHM	RP53,R53,R74,R75,R76,R77,R92,R93,R118,R122,R123		11
33	#N/A	010B6F4821	Chip Resistor,SMD,+0.1%,0603,1/16W,4.75K OHM	RP17		1
34	#N/A	01056F5621	Chip Resistor,SMD,+5%,0603,1/16W,5.6K OHM	RP13,R24		2
35	#N/A	01056F1031	Chip Resistor,SMD,+5%,0603,1/16W,10K OHM	RA6,RA11,RP14,RA14,R16,RA18,RP19,RA19,RP20,R20,RP23,RP25,RP28,R28,R29,RP32,R56,R65,R90,R94,R105,R106,R108,R112,R114,R115,R116		27
36	#N/A	01016F1331	Chip Resistor,SMD,+1%,0603,1/16W,13K OHM	RP27		1
37	#N/A	01056F1631	Chip Resistor,SMD,+5%,0603,1/16W,16K OHM	R26		1
38	#N/A	01056F2031	Chip Resistor,SMD,+5%,0603,1/16W,20K OHM	RA3,RA4,RA9,RA10,R64		5
39	#N/A	01056F3331	Chip Resistor,SMD,+5%,0603,1/16W,33K OHM	RP4		1
40	#N/A	01056F4731	Chip Resistor,SMD,+5%,0603,1/16W,47K OHM	RP6,RA7,RA8,RA15,RA16,RP54		6
41	#N/A	01056F6831	Chip Resistor,SMD,+5%,0603,1/16W,68K OHM	RP55		1
42	#N/A	01016F6231	Chip Resistor,SMD,+1%,0603,1/16W,62K OHM	RP12,RP11		2
43	#N/A	01056F1041	Chip Resistor,SMD,+5%,0603,1/16W,100K OHM	RA1,RA2,RP3,RP8,RP9		5
44	#N/A	01056F1051	Chip Resistor,SMD,+5%,0603,1/16W,1M OHM	RP30,RP34,RP35,R71		4
45	#N/A	01016F51R2	Chip Resistor,SMD,+1%,0603,1/16W,5.1 OHM	R30		1
46	#N/A	01016F39R1	Chip Resistor,SMD,+1%,0603,1/16W,3.9 OHM	R43		1
47	#N/A	01016F4501	Chip Resistor,SMD,+1%,0603,1/16W,44.2 OHM	R33		1
48	#N/A	01016F2801	Chip Resistor,SMD,+1%,0603,1/16W,27.4 OHM	R34		1
49	#N/A	01016F4702	Chip Resistor,SMD,+1%,0603,1/16W,46.4 OHM	R49		1
50	#N/A	01016F1101	Chip Resistor,SMD,+1%,0603,1/16W,11 OHM	R54		1
51	#N/A	01016F5401	Chip Resistor,SMD,+1%,0603,1/16W,53.6OHM	R51		1
52	#N/A	01016F7501	Chip Resistor,SMD,+1%,0603,1/16W,75 OHM	R17,R18,R19		3
53	#N/A	01016F7901	Chip Resistor,SMD,+1%,0603,1/16W,78.7 OHM	R42		1
54	#N/A	01016F1512	Chip Resistor,SMD,+1%,0603,1/16W,147 OHM	R37,R45		2
55	#N/A	01016F2511	Chip Resistor,SMD,+1%,0603,1/16W,243 OHM	R52		1
56	#N/A	01016F2011	Chip Resistor,SMD,+1%,0603,1/16W,196 OHM	R31		1
57	#N/A	01056F5111	Chip Resistor,SMD,+5%,0603,1/16W,510 OHM	R124,R125		2
58	#N/A	01016F0131	Chip Resistor,SMD,+1%,0603,1/16W,1K OHM	R85,RP33		2

Item	ViewSonic P/N	ReferenceP/N	Description	Location	Universal Number	Q'ty
59	#N/A	01016F3621	Chip Resistor,SMD,+1%,0603,1/16W,3.6K OHM	RP15		1
60	#N/A	01016F5621	Chip Resistor,SMD,+1%,0603,1/16W,5.6K OHM	RP26		1
61	#N/A	01016F6221	Chip Resistor,SMD,+1%,0603,1/16W,6.2K OHM	R40		1
62	#N/A	01016F1031	Chip Resistor,SMD,+1%,0603,1/16W,10K OHM	R58,R55		2
63	#N/A	01016F1232	Chip Resistor,SMD,+1%,0603,1/16W,12K OHM	RP31		1
64	#N/A	01016F1831	Chip Resistor,SMD,+1%,0603,1/16W,18K OHM	RP21,R38		2
65	#N/A	01016F3931	Chip Resistor,SMD,+1%,0603,1/16W,39K OHM	RP29,RP50,RP52		3
66	#N/A	01018E2401	Chip Resistor,SMD,+1%,0805,1/10W,24 OHM	R35		1
67	#N/A	505050761	Chip Capacitor,MLCC,NPO,0603,5pF,50V,+5%	C140,C141		2
68	#N/A	050K102762	Chip Capacitor,MLCC,X7R,0603,1nF,50V,+10%,RoHS	C83,C100		2
69	#N/A	050K472761	Chip Capacitor,MLCC,X7R,0603,4.7nF,50V,+10%,RoHS	CP24		1
70	#N/A	050K103561	Chip Capacitor,MLCC,X7R,0603,10nF,25V,+10%,RoHS	C6,C7,C8,C9,C10,C11,CP17,CP36,C150		9
71	#N/A	050K103761	Chip Capacitor,MLCC,X7R,0603,10nF,50V,+10%,Pb Free	CP31		1
72	#N/A	050K683461	Chip Capacitor,MLCC,X7R,0603,68nF,16V,+10%	CA19,CA13		2
73	#N/A	050Z224562	Chip Capacitor,MLCC,Y5V,0603,220nF,25V,-20~+80%	CA11,CA16		2
74	#N/A	050Z474561	Chip Capacitor,MLCC,Y5V,0603,470nF,25V,-20~+80%	CP30		1
75	#N/A	505470761	Chip Capacitor,MLCC,NPO,0603,47pF,50V,+5%	CA5,CA6		2
76	#N/A	505221761	Chip Capacitor,MLCC,NPO,0603,220pF,50V,+5%,Pb Free	CP25		1
77	#N/A	050Z015561	Chip Capacitor,MLCC,Y5V,0603,100nF,25V,-20~+80%	CA2,CA7~CA9,CP8,C12,CP13,CP16,CP20,CP22,CA24,CP28,CP33,C40,C42,C44,C46,C49,C52,C54,C56~C58,C60,C62,C64,C65,C67,C69~C71,C73,C75~C79,C81,C82,C85,C89,C104~C115,C118~C129,C131~C139,C143,C144,C146,C147		78
78	#N/A	050Z015762	Chip Capacitor,MLCC,Y5V,0603,100nF,50V,-20~+80%	CP1,CP2,C145		3
79	#N/A	050Z016361	Chip Capacitor,MLCC,Y5V,0603,1uF,10V,-20~+80%,RoHS	C23,CP7		2
80	#N/A	050Z016482	Chip Capacitor,MLCC,Y5V,0805,1uF,16V,-20~+80%,T=1.0mm(MAX.),RoHS	CP23,CP32		2
81	#N/A	050Z225483	Chip Capacitor,MLCC,Y5V,0805,2.2uF,16V,-20~+80%,RoHS	CA22 , CP29		2
82	#N/A	050K0165C1	Chip Capacitor,MLCC,X7R,1206,1uF,25V,+10%	CP14		1
83	#N/A	050Z2255C1	Chip Capacitor,MLCC,Y5V,1206,2.2uF,25V,-20~+80%,T=1.25mm(MAX.)	CP3,CP4		2
84	#N/A	050K1062C1	Chip Capacitor,MLCC,X5R,1206,10uF,6.3V,+10%,RoHS	CP35		1
85	#N/A	050Z2263C1	Chip Capacitor,MLCC,Y5V,1206,22uF,10V,-20~+80%	C53,C55,C61,C63,C72,C74,C103,C116,C130,C142		10
86	#N/A	050K0167D2	Chip Capacitor,MLCC,X7R,1210,1uF,50V,+10%,RoHS	CP5,CP10		2
87	#N/A	050K4754D2	Chip Capacitor,MLCC,X7R,1210,4.7uF,16V,+10%,RoHS	CP21		1
88	#N/A	050Z1064D3	Chip Capacitor,MLCC,Y5V,1210,10uF,16V,-20~+80%	CA23,C39,C41,C45,C47,C48,C59,C80,C84,C86,C88,C148,C149		13
89	#N/A	050M1064D2	Chip Capacitor,MLCC,X5R,1210,10uF,16V,+20%	C50,C51,C66		3
90	#N/A	050Z1065D1	Chip Capacitor,MLCC,Y5V,1210,10uF,25V,-20~+80%,Pb Free	C43		1
91	#N/A	070M447604	Aluminum Electrolytic Capacitor,SMD,47uF,16V,+20%,LV470M016E055R(6.3*5.5),CAPXON,RoHS	CA1,CP18,CP34		3
92	#N/A	1400603003	Varistor,SMD,0603,5V,10pF,+10%,VPORT0603100KV05T(Vc=34V),INPAQ	C17,C18,C19		3
93	#N/A	1400603001	Varistor,SMD,0603,5V,22pF,+10%,VPORT0603220KV05T(Vc=30V),INPAQ,RoHS	C4,C5,C13,C14,C15,C16		6
94	#N/A	1104800002	Ferrite Bead,SMD,0805,42 OHM,+25%,4A,FBMJ2125HS420-T,Taiyo Yuden,RoHS	LP5,L19,L20,L23,L24,L25,L26,L27,L28,L29,L30,L31,L32,L33		14
95	#N/A	1104600003	Ferrite Bead,SMD,0603,120 OHM,+25%,0.2A,BK1608LL121,Taiyo Yuden,RoHS	LP1,LP2,LP3,LA3,LA4,L21,L22		7
96	#N/A	1104600017	Ferrite Bead,SMD,0603,60 OHM,+25%,0.5A,BK1608HS600	L14,L15,L34,L35		4
97	#N/A	1104600015	Ferrite Bead,SMD,0603,220 OHM,+25%,2A,MPZ1608S221ATA00,TDK	LA2		1
98	#N/A	1101O10005	Inductor,SMD,10uH,+30%,3.5A,SLF10155T-100M3R5-TPF,H=5.8mm(MAX),TDK	LP4		1
99	#N/A	1101M33002	Inductor,SMD,33uH,+20%,2.1A,SLF10155T330M2R1-TPF,H=5.8mm(MAX),TDK	LP6		1
100	#N/A	205422061	Chip Resistor Array,SMD,+5%,0603*4,1/16W,22 OHM,Convex	LP8,LP7		2
101	#N/A	205410361	Chip Resistor Array,SMD,+5%,0603*4,1/16W,10K OHM	RP49		1

Item	ViewSonic P/N	ReferenceP/N	Description	Location	Universal Number	Q'ty
102	#N/A	060Z410451	Chip Capacitor Array,MLCC,Y5V,0603*4,100nF,25V,-20%~+80%	CP38,CP37		2
103	#N/A	210431CCMS	IC(APZS Regulator),LM431CCM3,SOT-23,NS	D5		1
104	#N/A	210LX8117S	IC(Regulator),LX8117-33CST,3.3V/0.8A,SOT-223,Microsemi	U5		1
105	#N/A	210172233S	IC(Regulator),AIC1722-33CX,3.3V/0.3A,SOT-89,AIC	U4		1
106	#N/A	2101084S3O	IC(Regulator),L1084S3,ADJ/5.0A,TO-263,NIKO-SEM	U6		1
107	#N/A	19024C16N1	EEPROM,AT24C16N-10SI-2.7,16K-bits,8S1(SOIC-8),ATMEL	U11		1
108	#N/A	2007414000	Logic IC(Hex Schmitt-Trigger Inverters),SN74LV14APWR,TSSOP-14	U3		1
109	#N/A	2104838MTF	IC(Audio power Amp),LM4838MTE,MXA28A(TSSOP-P-28),NS	UA1		1
110	#N/A	19024FC21E	EEPROM,ST24FC21BM1TR,1K-bits,SOP-8,ST	U2		1
111	#N/A	210512600P	IC(Scaler),gm5126,PQFP-208,GENESIS	U9		1
112	#N/A	2105VD26AS	IC(Voltage Detector),RN5VD26AA-TR,SOT-23-5,RICOH	U10		1
113	#N/A	2105451DR1	IC(PWM),FP5451DR,SOP-16,2CH,Feeling	UP1		1
114	#N/A	2103580001	IC(OP AMP),LM358AM,M08A(SOP8),2CH,NS	U7		1
115	#N/A	1402170111	Diode(Dual),DAN217-T146,SOT-346	DP1,DP2,D6		3
116	#N/A	1403R6B511	Diode(Zener),UDZS-3.6B,TE-17,SOD-323,ROHM	ZDP3		1
117	#N/A	1405R1B511	Diode(Zener),UDZS-5.1B,TE-17,SOD-323	ZDP1,ZD1,ZDP2,ZDP11,ZDP12		5
118	#N/A	1404148171	Diode,1N4148WS,SOD-323,DIODES	D3,D4		2
119	#N/A	1503904111	Transistor (NPN),SST3904,T-116,SOT-23	Q4		1
120	#N/A	1503906111	Transistor (PNP),SST3906,T-116,SOT-23	QP1,QP12,QP13		3
121	#N/A	1506K1N161	Transistor (Dual N-MOS),UM6K1N-TN,30V/0.1A,SOT-363(SC-88)	Q2		1
122	#N/A	150338P111	Transistor (P-MOS),FDN338P,SOT-23	Q3		1
123	#N/A	1500170111	Transistor (N-MOS),2N7002,SOT-23	QP2,Q7,Q8,QP10,QP11		5
124	#N/A	1509435232	Transistor(P-MOS),CEM9435A,30V/5.3A,SOP-8,CET	QP8,QP4		2
125	#N/A	1502222231	Transistor(NPN),MMBT222A,SOT-23,DIODES	QP5,QP7		2
126	#N/A	1502907112	Transistor(PNP),MMBT2907A,SOT-23,DIODES	QP9,QP6		2
127	#N/A	1500250111	Transistor (P-MOS),TP0610T,SOT-23	Q1,Q6,Q5		3
128	#N/A	24016330C1	Fuse,SMD,1206,3A,63V,3216FF-3A-TR1,T=1.1mm (MAX.)	FP1		1
129	#N/A	2600014601	Quartz Crystal,SMD-49,14.31818 MHz,30pF,H=4.5mm (MAX.),H.E.L.E.	X1		1
130	#N/A	070M510701	Aluminum Electrolytic Capacitor,SMD,100uF,25V,+/-20%,25CV100AX(6.3*7.7)	CP26		1
131	#N/A	19029C511E	Flash Memory,S29C51001T-90J,1 Mbit,PLCC-32,SyncMOS	U12		1
132	#N/A	2500100321	Socket,SMD,1002E32CT1R2,PLCC 32 Pin,1A,H=3.85mm (Typ.),AP	U12		1
133	#N/A	250345S452	Connector,B-F,45pin,Hirose,FH12-45S-0.5SH	CN3,CN4		2
134	#N/A	25052SJ031	Connector,Phone Jack,Singatron,2SJ-05131N13,3 Pins	PA1		1
135	#N/A	2503066151	Connector,B-C,15Pin,Molex,89263-6772,D-Sub	JP1		1
136	#N/A	2501327081	Connector,B-B,8Pin,E&T,3273-008-10	CN1		1
137	#N/A	2503710151	Connector,B-F,15Pin,E&T,7101-15	CN2		1
138	#N/A	41A1793901	Heat Sink,28*28*7.9mm(SEKISUI#5760)	U9		1
139	#N/A	14031QS711	Diode(schottky),EC31QS03L,TE12L,3A/30V,SMA	DP6,DP7		2
140	C-00000465	41A1799102	Cover-FFC,A170E1,Tin Plate,t=0.4mm			1
141	C-00000463	41A1799116	Cover ad-assy,A170E1,Tinplate,t=0.4mm,Autoassy			1
142	HW-00000553	42A9930008	Screw,M3*P0.5*4,f 5.5*2,Steel			13
143	M-00000559	42A9940007	Stand-Off 4 #-40*11.8			2
144	M-00000566	44A1713023	Backlight Unit,A170E1,CLT,Direct Type,JP West Lamp,with CMC Diffuser(For Auto Assy)	B/L		1
145	M-00000558	41A1769104	Metal Frame Front Assy,A170E1,Tin Plate,t=0.4mm,For New Panel	Front		1
146	#N/A	PH0E12E008	17" ID BOM Analog,EU,Silver Black,For VSC			1
147	HW-00000557	42A9930017	Screw,f 3*P1.27*8,f 5.5*2,Steel			2
148	C-00000464	40A1792228	Cover Hinge,A170E1-H0E,ABS,Black			2
149	C-00000543	40A17999G9	Stand Assy,A170E1-H0E,877C(Silver)			1
150	HW-00000555	42A9930014	Screw,M3*P0.5*6,Steel			6
151	PL-00000567	41A1799108	Support Plate,A170E1,SECC,t=1.0mm			1
152	HW-00000556	42A9990005	Screw,M3*P1.27*12,f 5.5*2,Steel			5
153	#N/A	10E1700036	Software(EDID),A170E2,Ver.VSC4A1BA00,ViewSon ic,Analog Port,Taiwan,Checksum(0D)	EDD		1
154	HW-00000553	42A9930008	Screw,M3*P0.5*4,f 5.5*2,Steel			2
155	#N/A	3241700001	FFC-OSD,A170E1- H01,15Pin,180mm*16mm,Pitch=1.0mm			1
156	#N/A	7344711002	TAPE-CONDUCTIVE,AL,125*30*0.08,A170E1- H01,3M:AL-35R			1
157	C-00000462	40A17299A1	BEZEL ASSY,A170E1-H0E,Analog,For ViewSonic(Silver)			1
158	C-00000466	40A1799243	Rear Assy,A170E1-H0E,Black			1

Item	ViewSonic P/N	ReferenceP/N	Description	Location	Universal Number	Q'ty
159	#N/A	10B1700043	Software(BIOS),A170E2,RSDS,Ver.17E2TG2005,CM C,Analog+Audio,CheckSum:ISP(B058),HiLo(3B16)	BIS		1
160	B-00000460	35A17K0205	PCBA For A170E2-T,A170E2-H-K,Rev.02,Rigid,202-01,(turn key)			1
161	#N/A	34A17K2201	PCB For A170E2-H-K,Rev.02,Rigid,(A170A26011)			1
162	#N/A	2304112001	LED Lamp(SMD;Orange),19-21UYOC/S530-A2/TR8,?=605nm,H=0.8mm,Everlight,RoHS	D2		1
163	#N/A	2304114001	LED Lamp(SMD;Green),19-21VGC/TR8,?=571nm,H=0.8mm,Everlight,RoHS	D1		1
164	#N/A	2503715151	Connector,B-F,15Pin,E&T,7151-15	CN1		1
165	#N/A	2502532021	CONNECTOR,W-B,A150X2,MOLEX,53261-0290,2Pin	CN3,CN2		2
166	#N/A	2704020004	Switch,Forward,SFKHHMW,4Pin,12V,DC 5mA	SW1,SW2,SW3,SW4,SW5,SW6		6
167	DC-00000551	77417191J9	Label,Safety Label,118x67, A170E1-H0E,VSC			1
168	#N/A	7741519181	Label,Bar-Code Label,55*13mm			1
169	DC-00000549	77417191K0	Label,Bar-Code Label,50*25,A170E1-H0E,VSC			1
170	C-00000467	40A1799245	Seat Assy,A170E1-H0E,877C(Silver)/Black	SEAT		1
171	#N/A	7841719911	PE Foam Bag,Protector,490*560*0.13,A170E1-H09,White			1
172	#N/A	7841599151	Pallet,Wooden,1150*920*135,A150X1-T05			0.016
173	#N/A	7841595171	Separator,(AA),1140*900*11mm,A150X1-T05			0.016
174	#N/A	7741999141	Label,Pallet Barcode Label,75x40,A190E2-H03,VSC			0.016
175	#N/A	7741729166	Label,Carton Label,76.2*76.2, A170E1-H0E,VSC			1
176	#N/A	7841535161	Inner Box,348*290*38,A150X2-T05			1
177	#N/A	7841749914	PE FOAM(Top),EPE,445*130*45mm,A170E1-H0A			1
178	#N/A	7841749915	PE FOAM(Bottom),EPE,445*130*45mm,A170E1-H0A			1
179	#N/A	7841595111	Corner Protector,50*50*1850(mm)			0.063
180	#N/A	7641701211	Menu(Quick Start Guide), A170E1-H0E,VSC	QUICK-G		1
181	#N/A	7841725265	Carton,450x140x466, A170E1-H0E,VSC			1
182	#N/A	7345511002	Tape,Security Tape,OPP,L900xW50x0.045mm,VSC			0.052
183	#N/A	PH0EAE3000	Olympic 17" Accessory BOM,D-Sub+Audio & EU 2Pins			1
184	CB-00000547	32F3018003	Monitor Cable,A150X2,30AWG,180cm,Black,JCE	DSUB		1
185	CB-00000544	32F2818004	Audio Cable,A150X2,18AWG,180cm,Black,JCE	AUDIO		1
186	#N/A	32E1818016	Power Code,CEE,H05W-F,0.75mm2,3C,LP-33+LS-60,L=1830+/-50mm,Black,Linetek,18AWG,No Bag	POWER		1
187	#N/A	2719060199	Adaptor(AC/DC),60W,19V,3.16A,UP060B1190-01B,POTRANS	ADAPTOR		1

This exploded view diagram illustrates the assembly of a monitor. The components are numbered as follows:

- 1:** Monitor bezel/frame.
- 2:** Screws for bezel attachment.
- 3:** Bezel-to-chassis alignment pins.
- 4:** Chassis frame.
- 5:** Top chassis rail.
- 6:** Bottom chassis rail.
- 7:** Side chassis rail.
- 8:** Screws for chassis rail assembly.
- 9:** Internal chassis reinforcement plate.
- 10:** Rear chassis plate.
- 11:** Screws for rear plate.
- 12:** Main PCB (Printed Circuit Board).
- 13:** PCB-to-chassis alignment pins.
- 14:** PCB mounting bracket.
- 15:** Screws for PCB mounting.
- 16:** Stand bracket.
- 17:** Stand plate.
- 18:** Screws for stand plate.
- 19:** Stand plate reinforcement.
- 20:** Stand plate mounting bracket.
- 21:** Monitor bezel (shown separately).
- 22:** Bezel-to-chassis alignment pins (shown separately).
- 23:** Stand bracket (shown separately).
- 24:** Stand plate (shown separately).
- 25:** Stand plate mounting bracket (shown separately).
- 26:** Stand plate reinforcement (shown separately).

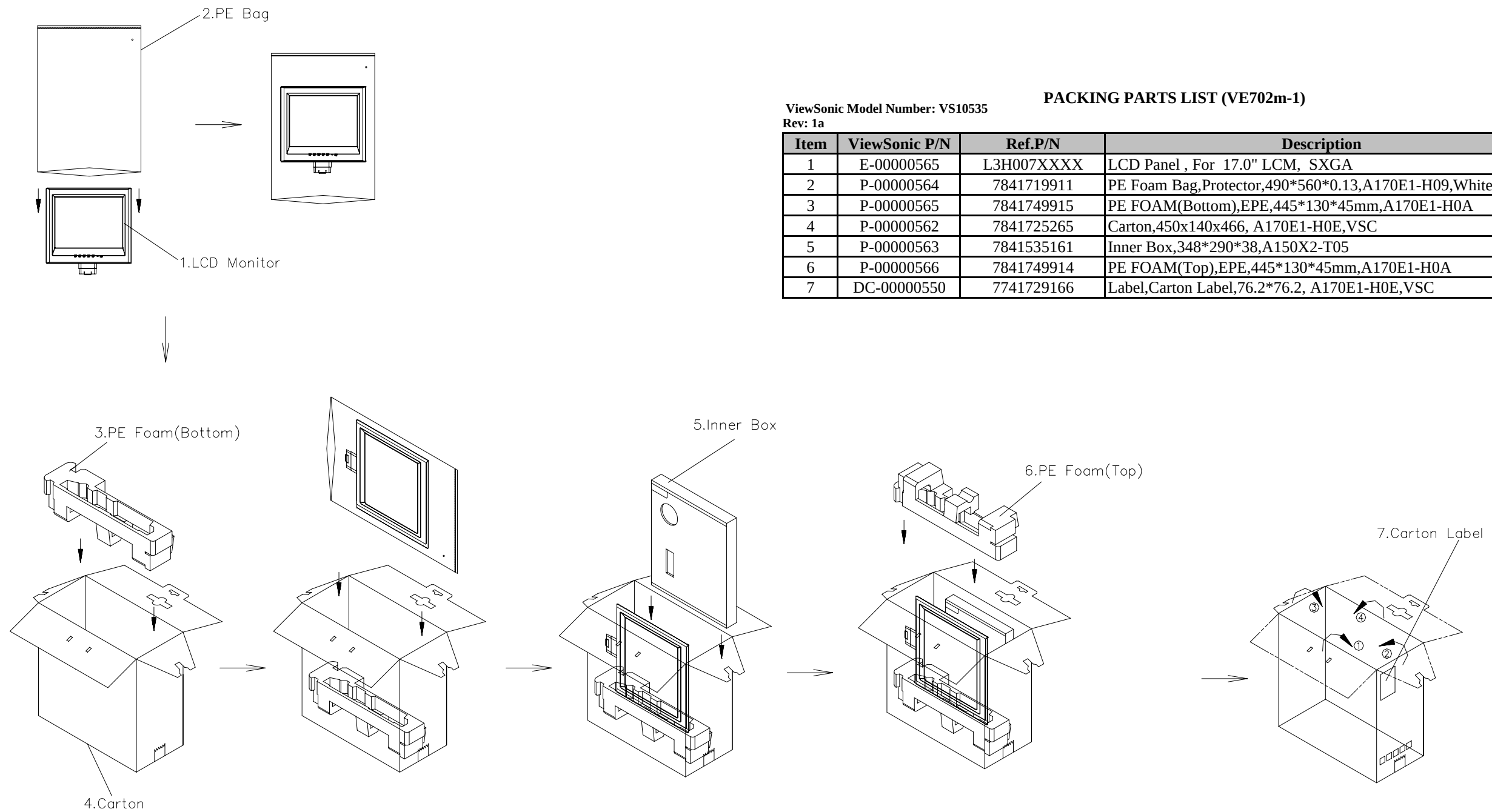
EXPLODED PARTS LIST (VE702m-1)

ViewSonic Model Number: VS10535

Rev: 1a

Item	ViewSonic P/N	ReferenceP/N	Description
1	C-00000462	40A17299A1	BEZEL ASSY,A170E1-H0E,Analog,For ViewSonic(Silver)
2	M-00000558	41A1769104	Metal Frame Front Assy,A170E1,Tin Plate,t=0.4mm,For New Panel
3	HW-00000553	42A9930008	Screw,M3*P0.5*4,f 5.5*2,Steel
4	E-00000565	L3H007XXXX	LCD Panel , For 17.0" LCM, SXGA
5	M-00000566	44A1713023	Backlight Unit,A170E1,CLT,Direct Type,JP West Lamp,with CMC
6	B-00000461	35A17S0216	PCBA For A170E2-T,A170E2-T-S,X1,Rigid,202-01,(turn key)
7	B-00000461	35A17S0216	PCBA For A170E2-T,A170E2-T-S,X1,Rigid,202-01,(turn key)
8	CB-00000545	3241702002	FFC_X,A170E1,45Pin,55*23mm
9	HW-00000553	42A9930008	Screw,M3*P0.5*4,f 5.5*2,Steel
10	PL-00000567	41A1799108	Support Plate
11	HW-00000557	42A9930017	Screw,f 3*P1.27*8,f 5.5*2,Steel
12	C-00000463	41A1799116	Cover ad-assy,A170E1,Tinplate,t=0.4mm,Autoassy
13	M-00000559	42A9940007	Stand-Off 4 #-40*11.8
14	C-00000465	41A1799102	Cover-FFC,A170E1,Tin Plate,t=0.4mm
15	HW-00000555	42A9930014	Screw,M3*P0.5*6,Steel
16	M-00000559	42A9940007	Stand-Off 4 #-40*11.8
17	CB-00000546	3241700001	FFC-OSD,A170E1-H01,15Pin,180mm*14mm,Pitch=1.0mm
18	M-00000561	7344711002	TAPE-CONDUCTIVE,AL,125*30*0.08,A170E1-H01,3M:AL-35R
19	B-00000460	35A17K0205	PCBA For A170E2-T,A170E2-H-K,Rev.02,Rigid,202-01,(turn key)
20	HW-00000556	42A9990005	Screw,f 3*P1.27*12,f 5.5*2,Steel
21	C-00000466	40A1799243	Rear Assy,A170E1-H0E,Black
22	HW-00000556	42A9990005	Screw,f 3*P1.27*12,f 5.5*2,Steel
23	C-00000543	40A17999G9	Stand Assy,A170E1-H0E,877C(Silver)
24	HW-00000555	42A9930014	Screw,M3*P0.5*6,Steel
25	C-00000464	40A1792228	Cover Hinge,A170E1-H0E,ABS,Black
26	C-00000467	40A1799245	Seat Assy,A170E1-H0E,877C(Silver)/Black

Packing for shipping

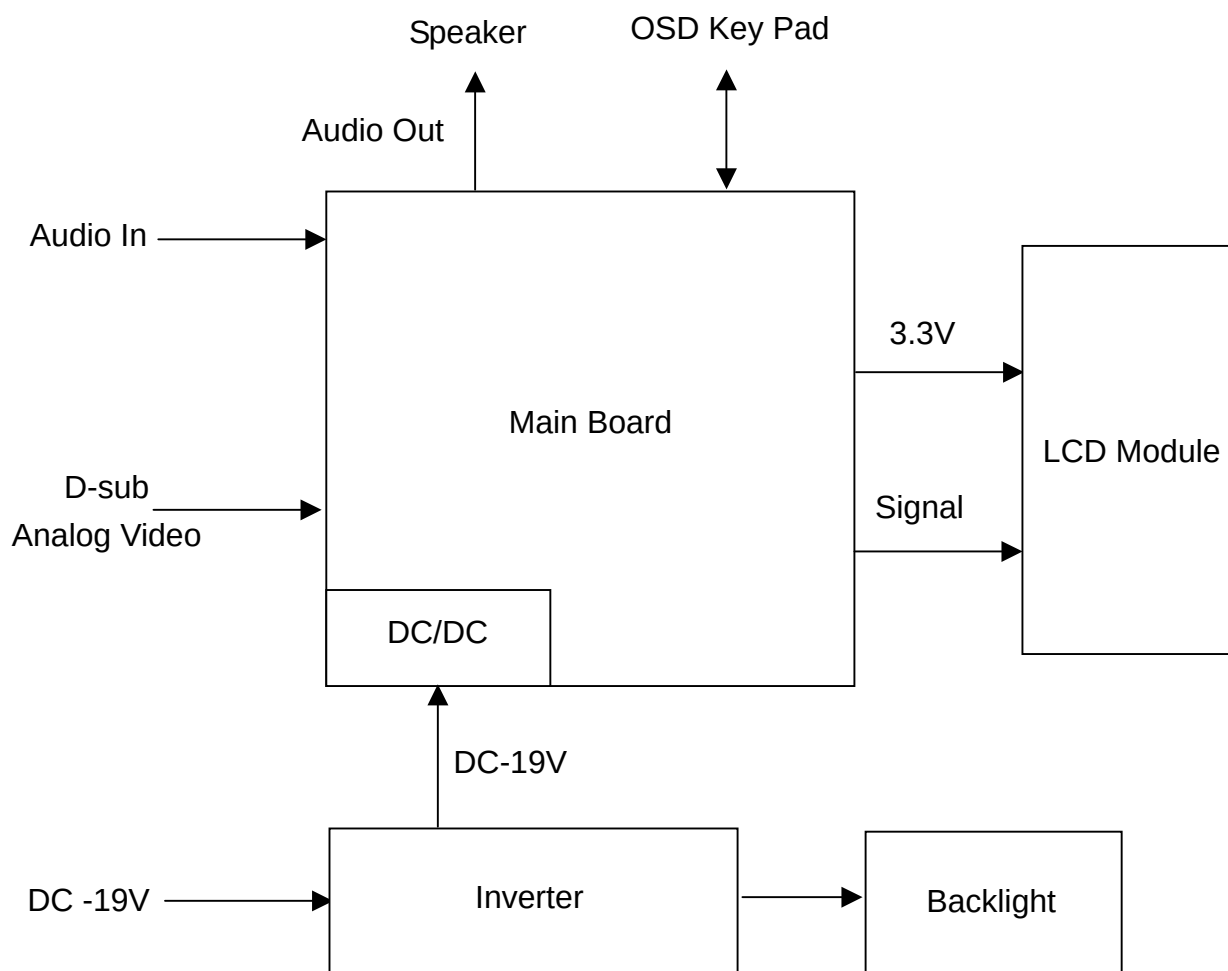


ViewSonic Model Number: VS10535
Rev: 1a

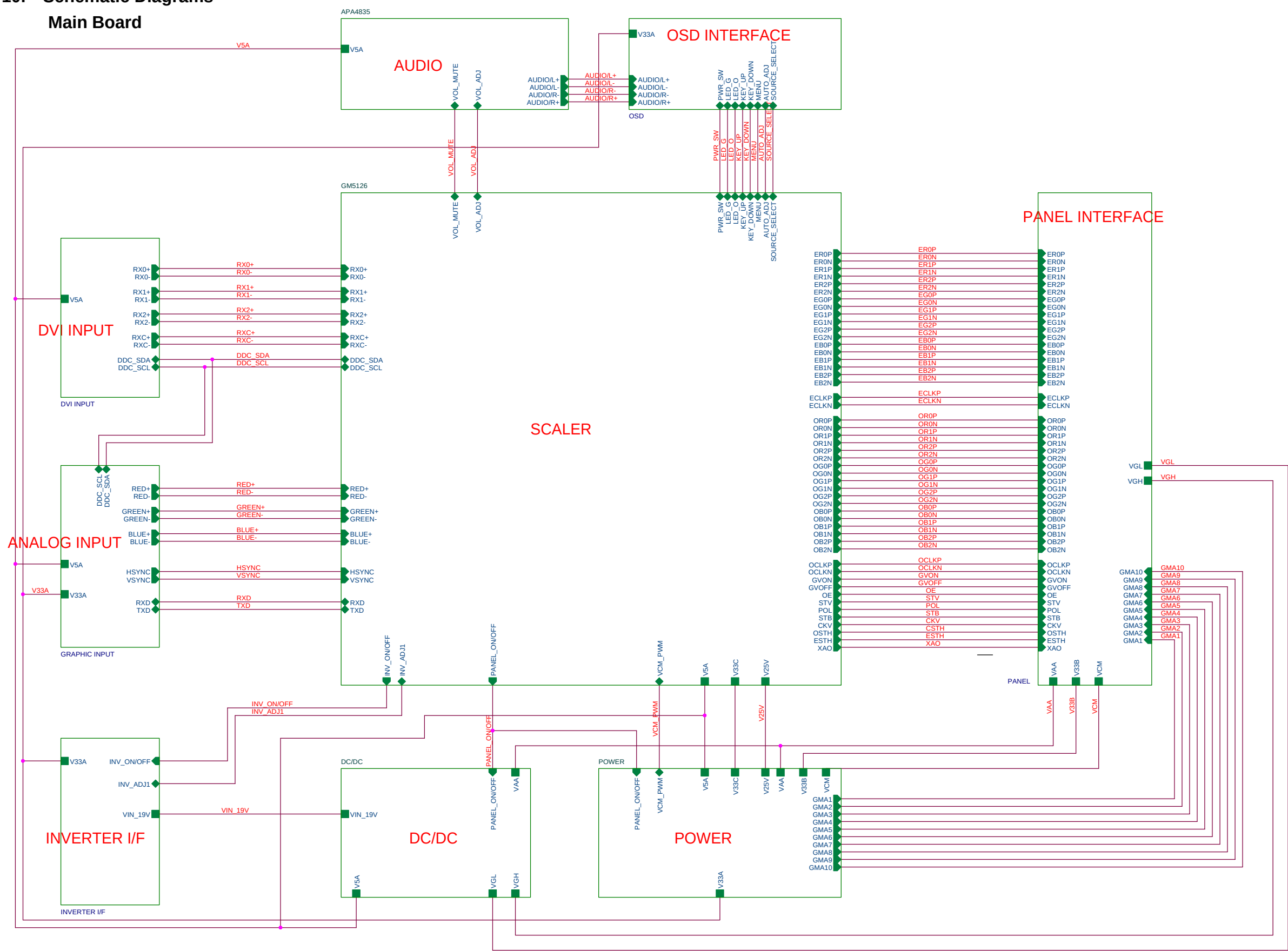
PACKING PARTS LIST (VE702m-1)

Item	ViewSonic P/N	Ref.P/N	Description
1	E-00000565	L3H007XXXX	LCD Panel , For 17.0" LCM, SXGA
2	P-00000564	7841719911	PE Foam Bag,Protector,490*560*0.13,A170E1-H09,White
3	P-00000565	7841749915	PE FOAM(Bottom),EPE,445*130*45mm,A170E1-H0A
4	P-00000562	7841725265	Carton,450x140x466, A170E1-H0E,VSC
5	P-00000563	7841535161	Inner Box,348*290*38,A150X2-T05
6	P-00000566	7841749914	PE FOAM(Top),EPE,445*130*45mm,A170E1-H0A
7	DC-00000550	7741729166	Label,Carton Label,76.2*76.2, A170E1-H0E,VSC

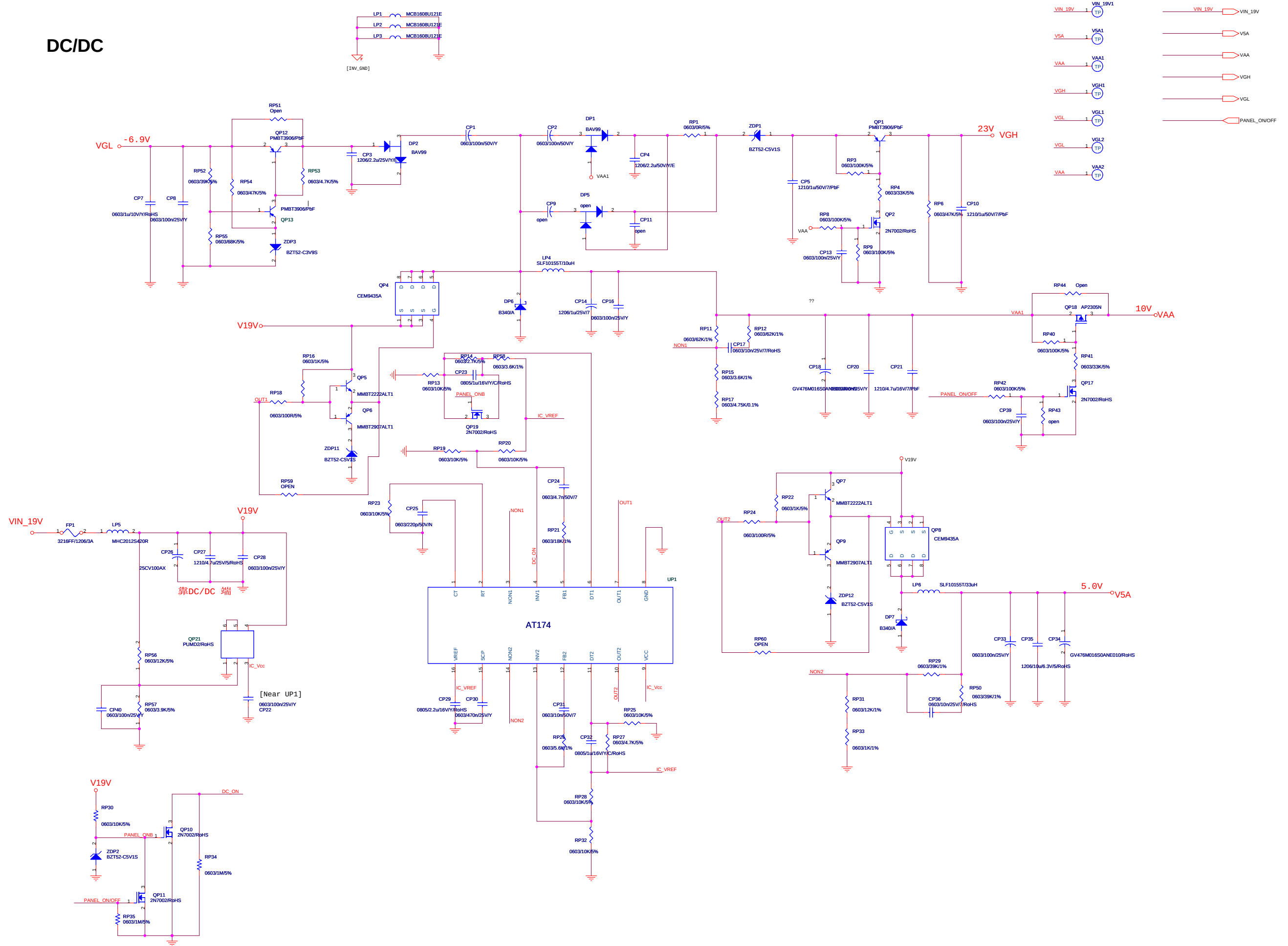
9. Block Diagram



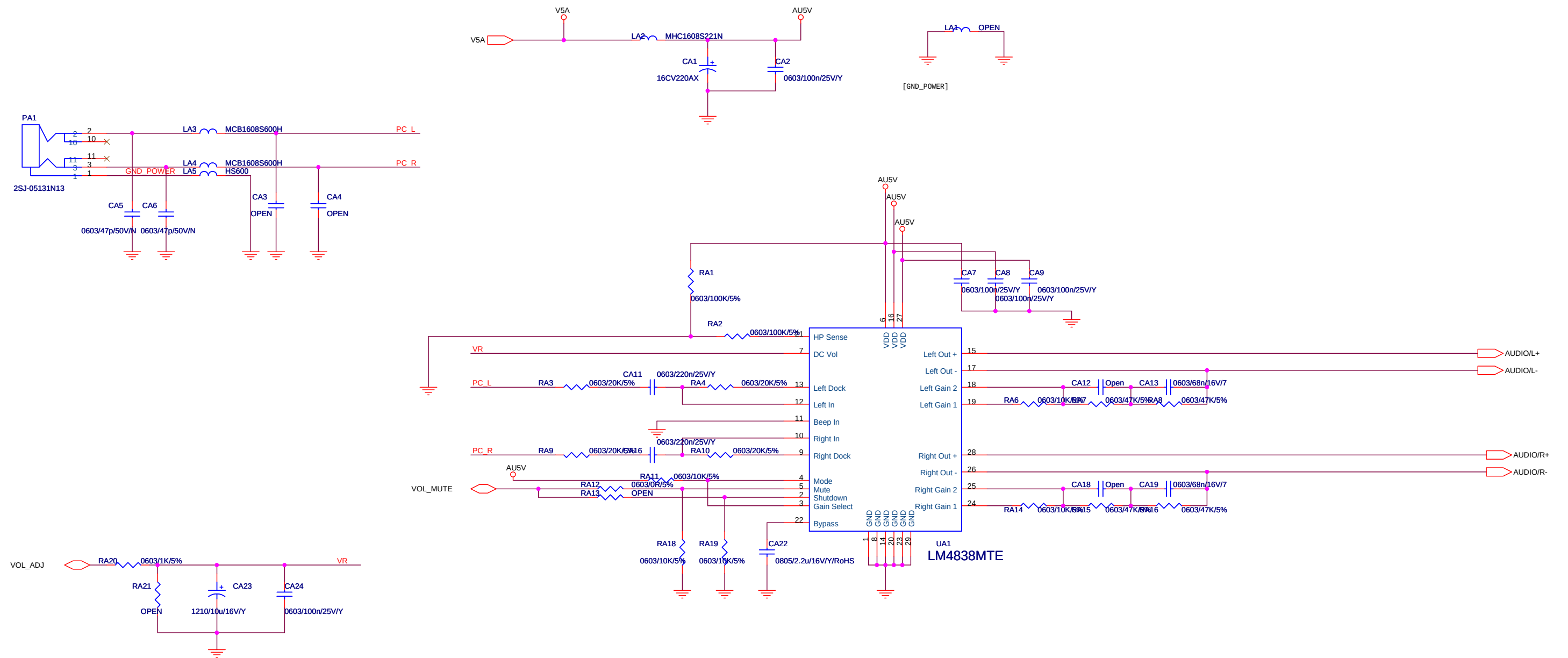
10. Schematic Diagrams
Main Board



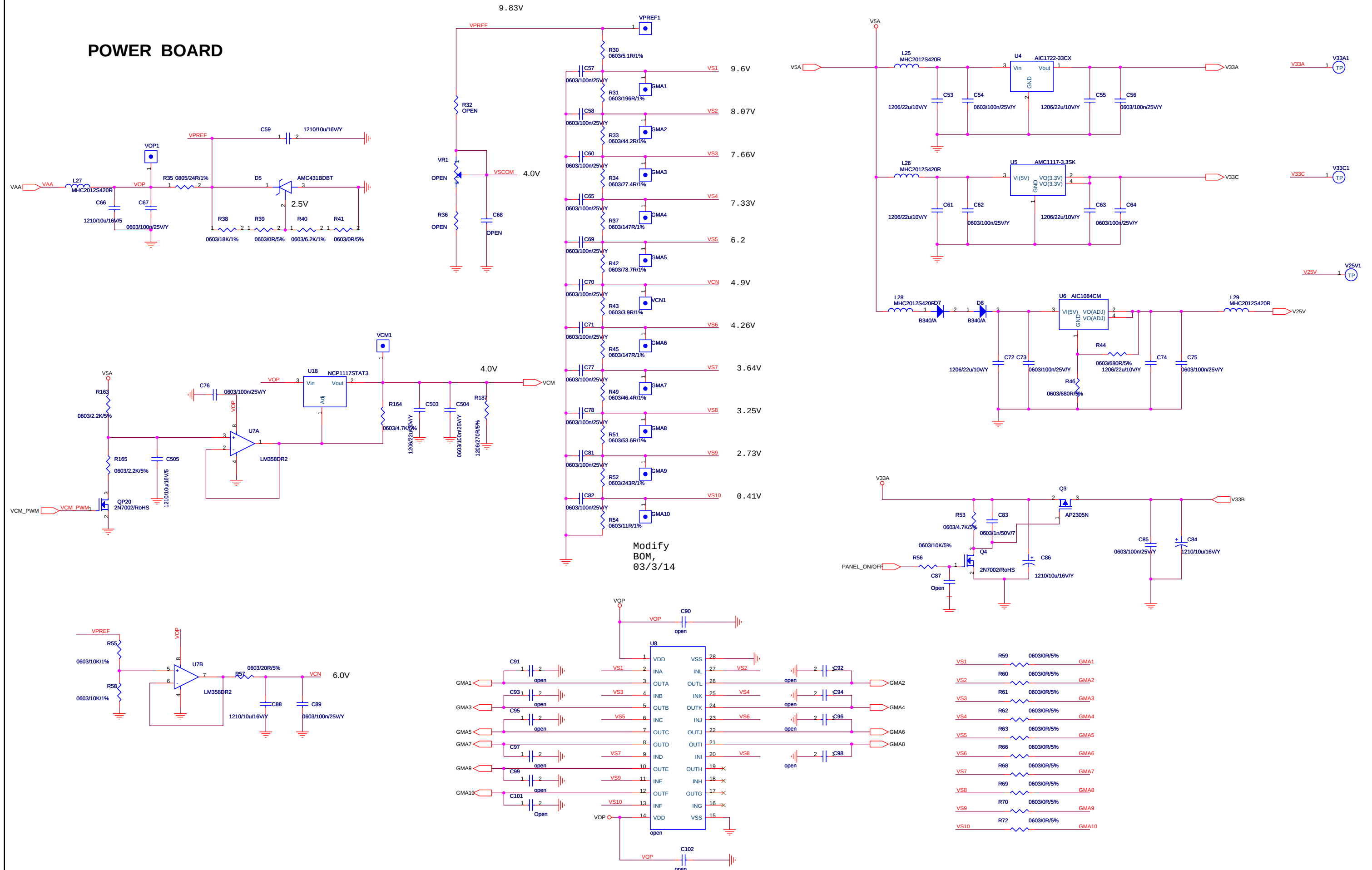
DC/DC



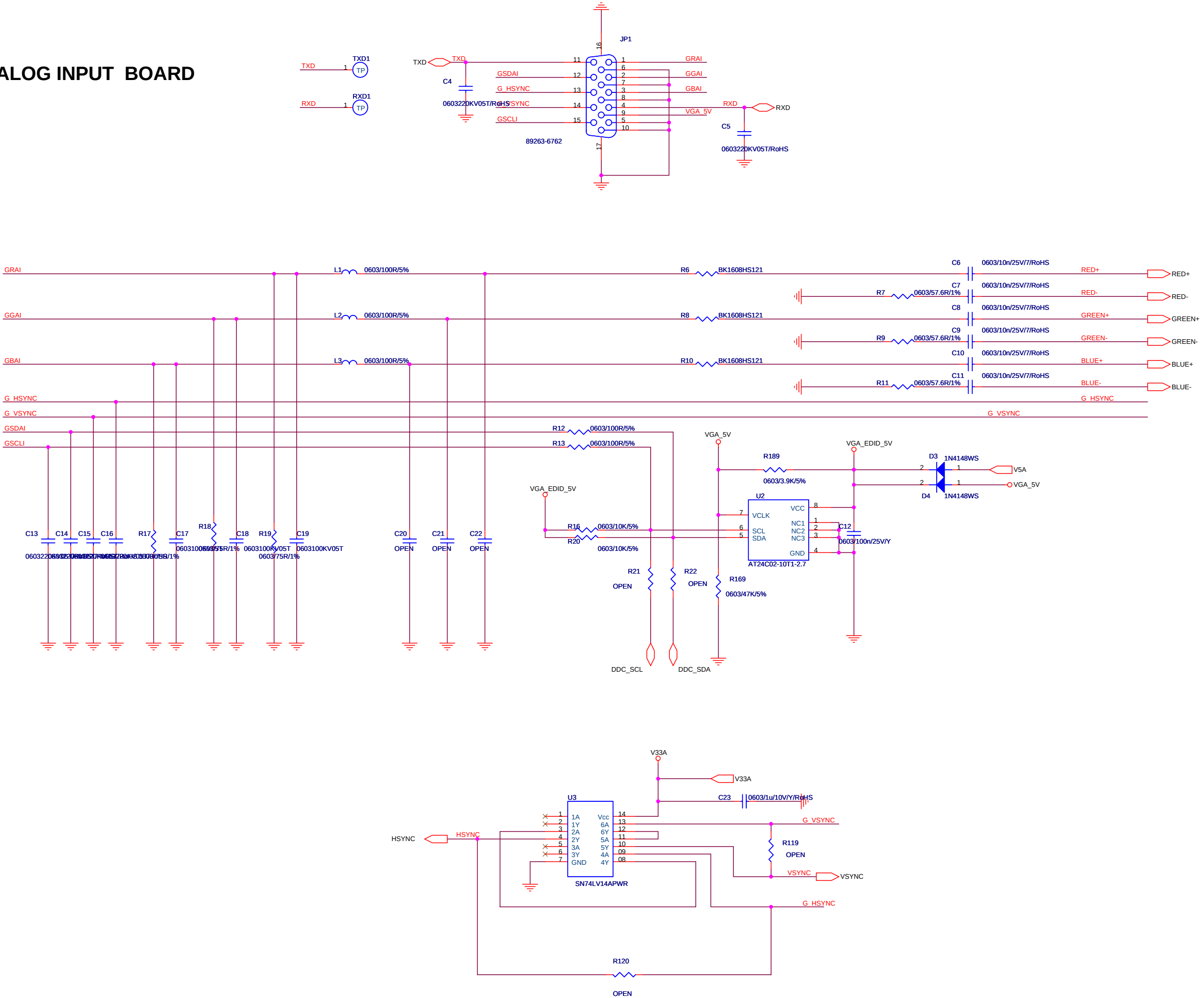
AUDIO BOARD

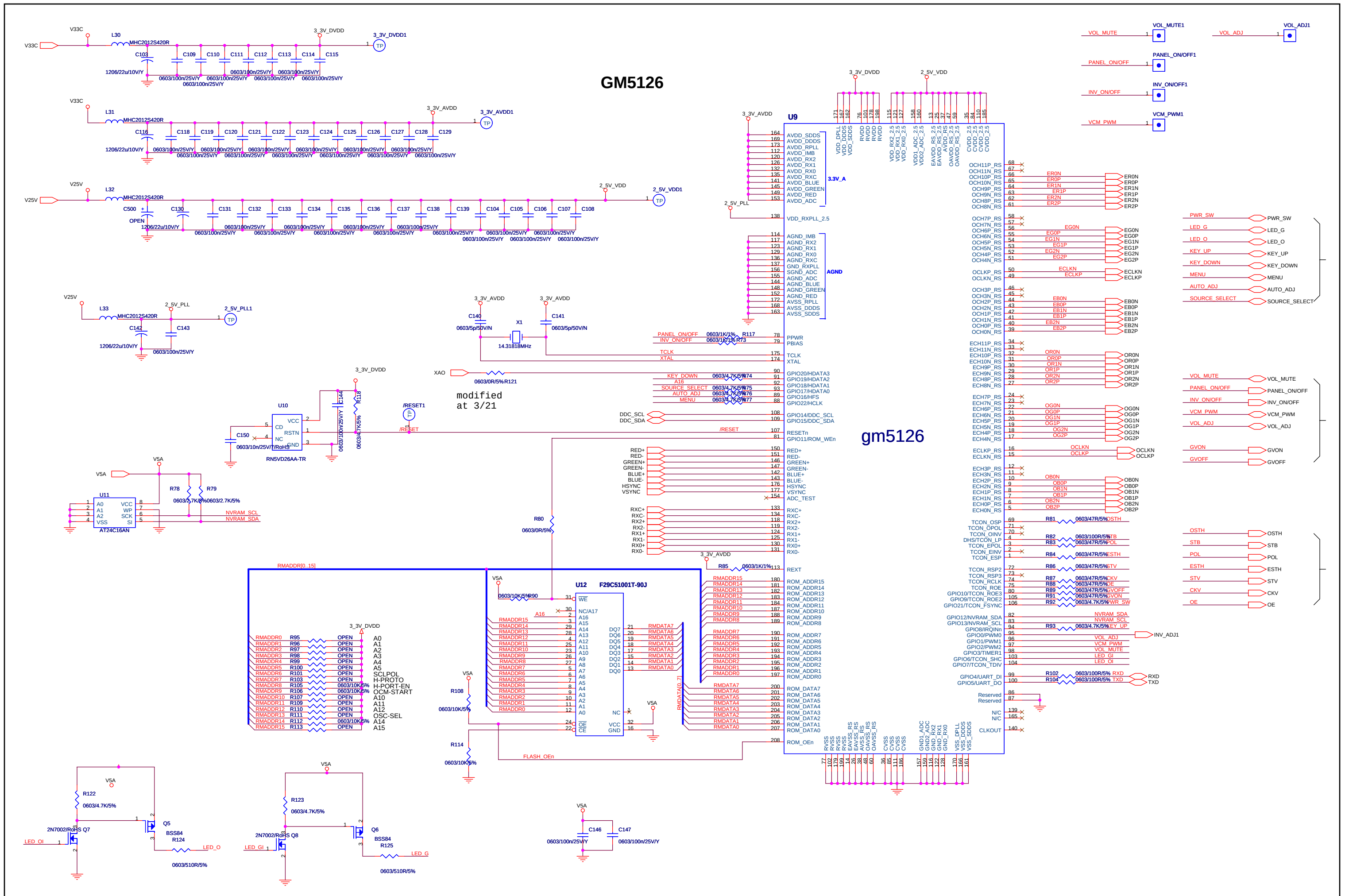


POWER BOARD

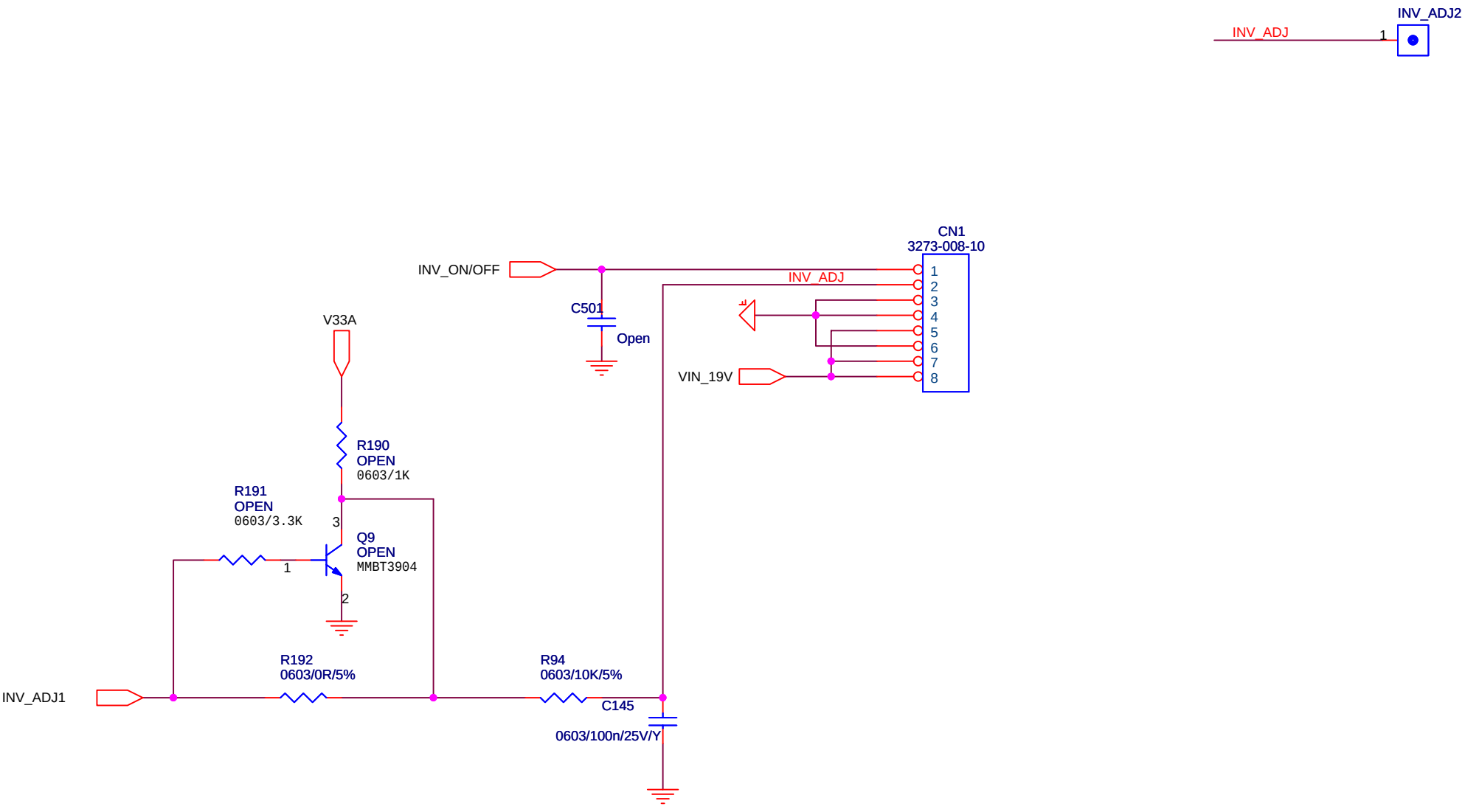


ANALOG INPUT BOARD

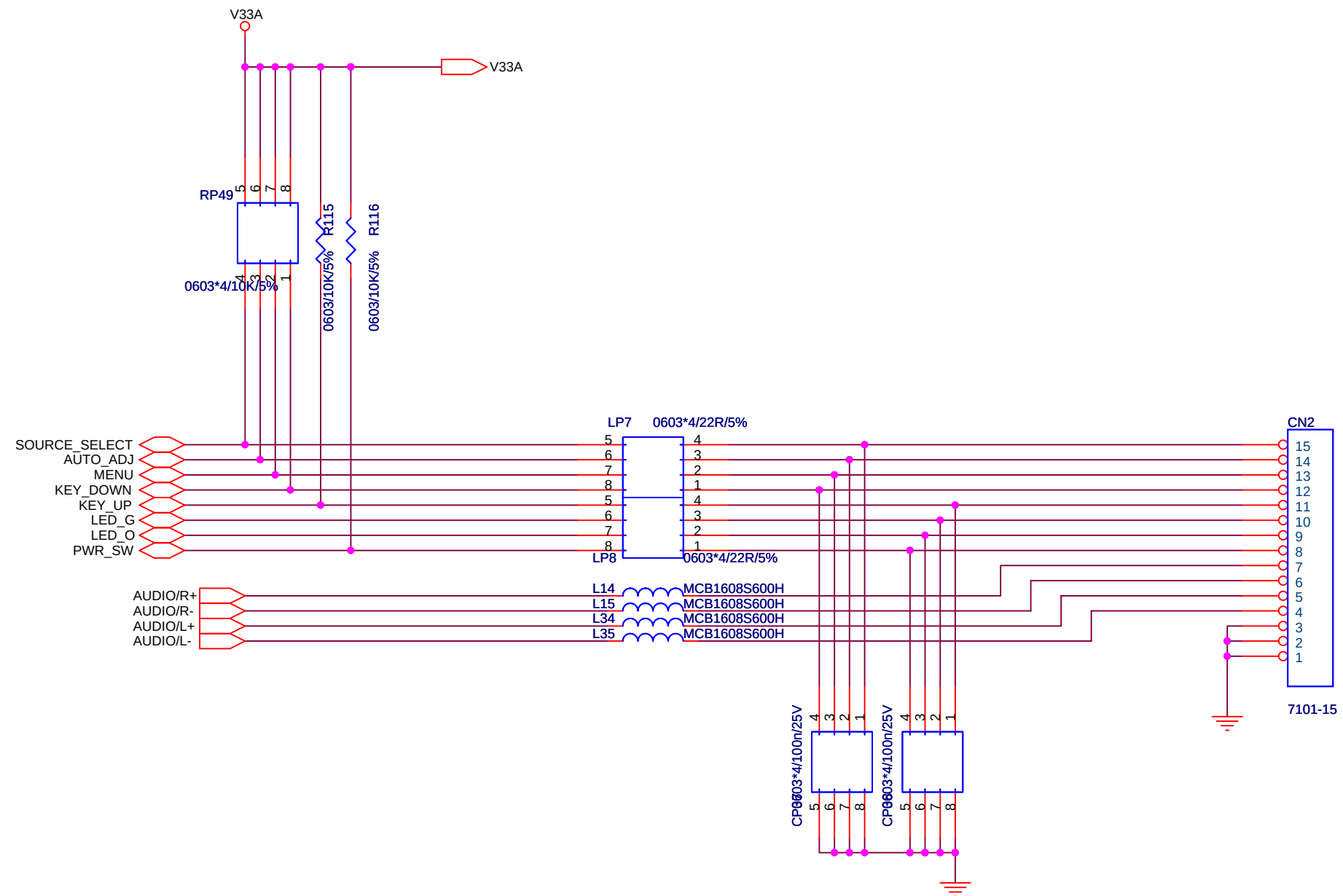




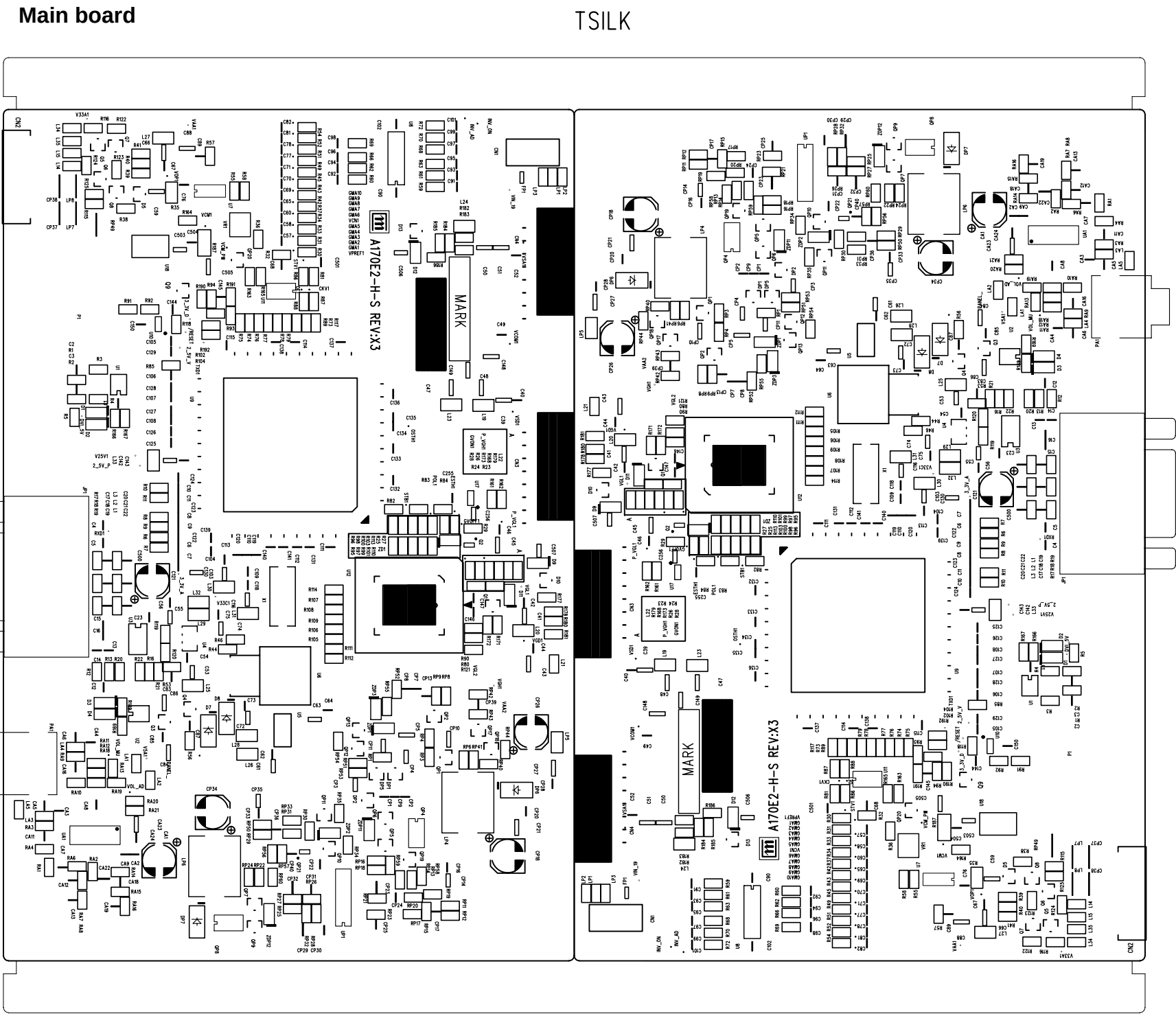
INVERTER I/F



OSD INTERFACE



11. PCB Layout Diagrams



Reader's Response

Dear Readers:

Thank you in advance for your feedback on our Service Manual, which allows continuous improvement of our products. We would appreciate your completion of the Assessment Matrix below, for return to ViewSonic Corporation.

Assessment

A. What do you think about the content after reading **VE702m** Service Manual?

<i>Unit</i>	<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
1. Precautions And Safety Notices				
2. Specification				
3. Front Panel Function Control Description				
4. Circuit Description				
5. Adjusting Procedure				
6. Trouble Shooting Flow Chart				
7. Recommended Spare Parts List				
8. Exploded Diagram and Spare Parts List				
9. Block Diagram				
10. Schematic Diagrams				
11. PCB Layout Diagrams				

B. Are you satisfied with the **VE702m** service manual?

<i>Item</i>	<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
1. Service Manual Content				
2. Service Manual Layout				
3. The form and listing				

C. Do you have any other opinion or suggestion about this service manual?

Reader's basic data:

Name:		Title:	
Company:			
Add.:			
Tel:		Fax:	
E-mail:			

After completing this form, please return it to ViewSonic Quality Assurance in the USA at facsimile 1-909-839-7943. You may also e-mail any suggestions to the Director, Quality Systems & Processes (marc.maupin@viewsonic.com)